

DODSON, WILLIAM, Ph.D. Rhetorical Memory, Synaptic Mapping, and Ethical Grounding. (2014)

Directed by Dr. Stephen R. Yarbrough. 214 pp.

This research applies neuroscience to classical accounts of rhetorical memory, and argues that the physical operations of memory via synaptic activity support causal theories of language, and account for individual agency in systematically considering, creating, and revising our stances toward rhetorical situations. The dissertation explores ways that rhetorical memory grounds the work of the other canons of rhetoric in specific contexts, thereby expanding memory's classical function as "custodian" to the canons. In this approach, rhetorical memory actively orients the canons as interdependent phases of discursive communicative acts, and grounds them in an ethical baseline from which we enter discourse. Finally, the work applies its re-conception of rhetorical memory to various aspects of composition and Living Learning Community educational models via practical and deliberate interpretation and arrangement of our synaptic "maps."

RHETORICAL MEMORY, SYNAPTIC MAPPING,
AND ETHICAL GROUNDING

by

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A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
2014

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November 22, 2013
Date of Acceptance by Committee

November 22, 2013
Date of Final Oral Examination

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CHAPTER I

COURTING MNEMOSYNE

If any one faculty of our nature may be called more wonderful than the rest, I do think it is memory. There seems something more speakingly incomprehensible in the powers, the failures, the inequalities of memory, than in any other of our intelligences. The memory is sometimes so retentive, so serviceable, so obedient—at others, so bewildered and so weak—and at others again, so tyrannic, so beyond control!—We are to be sure a miracle every way—but our powers of recollecting and of forgetting, do seem peculiarly past finding out.
--Fanny Price, in *Mansfield Park*, by Jane Austen

The Muses in Greek mythology protect and inspire the arts, sciences, history, philosophy, and rhetoric. That their mother is Mnemosyne—Memory—signifies the fundamental importance of memory to all inquiry, the desire for knowledge. To the Greeks, memory was our highest and most mysterious gift. Plato's entire philosophy was a system of memory intended to lead us back to knowledge of the Forms, universal truths forgotten when humans descended from the heavens onto the world. Aristotle and subsequent philosophers and rhetoricians analogized memory to various forms of writing, most famously a wax tablet that bears the imprints of experience.

As literacy spread among educated classes and mediums for writing became more portable and convenient, memory began to lose its central emphasis in systems of thought. This is particularly true in rhetoric, where, partly due to the influence of Quintilian and later Peter Ramus, memory has been reduced to strategies for rote memorization and topical invention, and the canons have been isolated as separate

components of composition. While the canons of rhetoric have been debated and reconsidered since they were codified in Cicero's *De Inventione* and the *Ad Herennium*,¹ and style and delivery have made recent comebacks in composition studies,² there have been few explorations and reconsiderations of memory. The most well-known studies of memory in medieval and Renaissance eras, Frances Yates's *The Art of Memory* (1966) and Mary Carruthers's *The Book of Memory: A Study of Memory in Medieval Culture* (1990), convincingly argue that memory remained central to crafting imagery and rhetoric after Roman times. Outside of Yates and Carruthers, of the few modern rhetoric and composition studies that have been conducted, none has yet made a major impact on the field due in no small part, I suggest, to memory's complicated history in rhetoric, which dissipated its use and undermined attempts to articulate practical applications of memory to composition and interpretation.³ Furthermore, ambiguous metaphors of memory, such as the memory palace, can seem anachronistic to modern students.⁴ Renaissance memory studies were heavily influenced by occult mysticism, and discussed memory in more and more elaborately abstract terms, culminating in vast memory theaters whose complexity dwarfed the memory palaces. Contemporary theorists still rely on these abstract metaphors and have not developed a critical vocabulary that renders memory into concrete terms as they have with the other canons. As a further handicap, any treatments on the subject face the entrenched perception of rhetorical memory as mnemonics or topical archives.

This perception is wholly inaccurate, but nonetheless endorsed and reinforced by such influential scholars as the late Edward P.J. Corbett. Most current work in rhetoric

falls in line with Corbett's categorical dismissal of memory from the canons of rhetoric. In every edition (1965, 1971, 1991, 1999) of *Classical Rhetoric for the Modern Student*—still a common textbook for training graduate students—Corbett claims, falsely, that memory never received much consideration by classical rhetoricians, and “[t]he reason for the neglect of this aspect of rhetoric is probably that not much can be said ... [so there] will be no consideration in this book of this aspect of rhetoric” (22). This attitude remains dominant, even in the latest textbooks.⁵

The science of memory is a hot topic at the moment. Enter any bookstore or, more likely, browse the virtual titles of an online vendor, and you will find among the pubescent wizards, teenaged vampires, and hunger gamers dozens upon dozens of books aimed at popular readership about the science of memory. Scientists and science journalists write books for general audiences that relay the latest discoveries and make speculative applications to decision-making, self-improvement, reading, and so on.⁶ Many of these applications have specific connections to rhetoric and composition, and moreover, memory in particular is a compelling subject because, from a neuroscientific standpoint, consciousness itself *is* memory, since, as Michael Greenberg notes, “what the brain is doing at all times and in all of its operations is remembering” (10). From the intricacies of procedural memory—the unconscious memories of how to do physical activities from walking to putting together an engine—to the mysteries of declarative memory—the narrative memories of our lives—memory underlies most questions we ask about ourselves, both as individuals and as groups.

Many of these new studies in memory offer important insights that can lead to fruitful applications to rhetorical memory, the canon that remains most neglected in the field. Some rhetoric and composition scholars already apply aspects of neuroscience via cognitive psychology to their pedagogies, beginning most notably with Linda Flower,⁷ and many are beginning to approach what Jordynn Jack calls “neurorhetorics,”⁸ but few if any have reconsidered classical concepts of rhetoric in concert with modern neuroscience. This study aims to do just that, and further, in reclaiming and restoring rhetorical memory to contemporary scholarship, it aims to demonstrate the interdependent, recursive relationship of the canons of rhetoric. This synthesis of neurological and rhetorical principles will be, I hope, useful to composition pedagogy and theory in providing a stance toward and vocabulary with which we can understand our own agency in how we interpret, consider, recall, and revise our memories, our perceptions, and our discourse.

As my study explores and applies these consequences, it offers an anchor point from which to consider the impact of neuroscience on the field(s) of rhetoric and composition. Despite the highly theoretical ambiguity of many new experimental findings, educators across the disciplines are beginning to draw quick and possibly premature conclusions about the cognitive traits of their students and are rushing to publish work based on neuroscience. Scholars both inside and out of the hard sciences are moving so quickly that critics like Philip Gerrans warn of a cognitive neuroscience “bubble” (2009).

While Gerrans is probably guilty of a little hyperbole, his point is valid: educators should slow down and examine neurological research carefully before drawing conclusions and applying them to their classrooms. We should also be cautious of blindly accepting the conclusions neuroscientists make from their research. Much of this science is so new that it is hotly debated among neurologists and cognitive psychologists, and until some time has passed we cannot be certain of studies' findings and, more to the point, the conclusions drawn from those studies. Jordynn Jack defines neurorhetorics in the context of a special issue of *Rhetoric Society Quarterly* devoted to the topic; each of the collected essays explores rhetorical applications of neurological and psychological research that stigmatized and oppressed segments of the population, based upon various prejudices that colored scientists' conclusions. It is therefore imperative that we proceed with caution.

Applying neuroscience to various fields of study indeed has become *de rigueur*, and rhetoric and composition are no exception. There is nothing inherently wrong with this; at one point, before its acceptance as basic hygiene, bathing was something of a fad as well. But again, caution. Colin McGinn has asked, perceptively, "If you want to understand what walking is you should take a look at the legs, since walking is what legs do. Is it likewise true that if you want to understand thinking you should look at the parts of the brain responsible for thinking?" (32). The analogy, McGinn suggests, does not hold. The brain remains too mysterious, and we must rely on conjectures and contingencies at this point. Rhetoricians and compositionists must consider McGinn's question carefully as they seek to apply neurological insights to their fields. Yet, though

we proceed carefully, proceed we should. Neuroscience is advancing quickly, and offers a wealth of applications to the study of rhetoric and writing.

Key to any such application will be a careful consideration of “neurorhetorics.” Jack argues that while “it might be tempting for rhetoric scholars to hop on the neuro-bandwagon,” we must take care, and “the goal of neurorhetorics...would be to investigate the rhetorical appeal, effects, and implications of this prefix, neuro-, as well as to carefully consider collaborative work between rhetoricians and neuroscientists” (406). She is surely right about both potential pitfalls and goals, for as the essays of that special issue attest, it is tempting for neuro- and social scientists, philosophers and politicians, rhetoricians and compositionists alike to apply neuroscience as a heuristic for categorizing and inscribing difference in ways that enforce hierarchy and stigma, particularly in designations of mental “illness.”

What I propose involves a different perspective and theoretical stance. I am less interested in exploring difference as I am similarity, i.e. the basic properties of memory common to all human beings (and many other animals). I wish to tease out some implications of neurological memory to rhetorical memory, and to suggest that some classical rhetoricians have always been on the “neuro-bandwagon” in intuitively applying rhetorical methodology to observed mental phenomena. Thus my exploration of neurorhetorics has less to do with, as Jack and L. Gregory Appelbaum put it, the rhetoric of neuroscience and more to do with the neuroscience of rhetoric (413). I do of course consider and interrogate the rhetoric of the various scientists I rely on for my research, but again, my focus is on the mental operations they observe and describe, rather than the

theoretical applications of operations to psychological categorization. In limiting my study to operations on which there is widespread agreement about function and operation, I wish to avoid to a large extent the rhetorical pitfalls of the “neuro-bandwagon” that Jack’s collection emphasizes. I also lean heavily on interactionist approaches to rhetoric, notably those of Stephen R. Yarbrough, and argue in concert with neuroscience for a theory of agency in language use called for by Marilyn M. Cooper.⁹ My goal is not to argue for some theory of “neurocomposition,” but rather to look at ways that neuroscience, interactionism, and classical rhetoric come together, and speculate on applications to education that make sense to me in light of those congruences.

The primary neurological subject in this study is the activity and properties of synapses, which illuminate ways in which memory physically *works*. Approaching the subject from an interactionist perspective that holds that our minds (as opposed to brains, more on this in Chapter Two) are formed through interaction with other minds in the world, the most relevant aspects of synaptic activity are how declarative memories form and change, and how individuals can deliberately recreate, reconsider, and reinterpret memories in negotiation with the world.¹⁰ These operations, I argue, fall under the four purviews of rhetorical memory as described by John Frederick Reynolds: developing mnemonics, crafting memorable language, consulting data repositories, and considering the psychology of oneself and one’s interlocutors (“Memory Issues” 7). I explore these classical conceptions of rhetorical memory and demonstrate how they intuitively match the actual activities of our brains as we discourse with others. This demonstration restores memory’s position as described in the *Rhetorica Ad Herennium* as “the custodian of all

parts of rhetoric” (III, xvi-xxiv). I explore the implications of memory as a “custodian,” rather than the more common appellation of “treasure-house of inventions” (III, xvi-xxiv). It is my contention that memory’s role as a custodian is more active, that it brings together the work of the other canons—grounds them in a rhetorical moment—and that the activities of our brains as we compose communicative gestures, speech, or writing indicate the canons are not discrete components of rhetoric but rather interdependent phases of acts of composing rhetoric or, to put it another way, preparing discourse.

Memory’s custodial role unites the canons. It is a “guardian” that preserves the inextricable relationships of the canons in acts of composition, through what I call ethical grounding: the identification of and alignment to ethos in a given situation. Ethical grounding involves discovering possibilities for discoursing in a given situation (Invention), considering conventions of intelligibility (Arrangement), crafting memorable language (Style), and determining appropriate medium (Delivery). While I focus my study on memory, I do so in order to discuss the canons as integrated and inseparable. In clarifying memory’s role in composition, I argue that the canons are recursive phases of a unitary process we call composition. Rhetorical memory prevents the other canons from being “static abstractions,” a term coined by Albert Kitzhaber and broadened by Robert J. Connors to include any “abstract adjective-based nouns ... whose purpose is to define good structure in prose writing” (Connors 270). I broaden it once more to include canons in isolation from one another, for what is Invention without discursive situation, Arrangement without audience’s background knowledge, Style without disciplinary conventions, Delivery without recognizable medium? In short, I argue, canons isolated

from one another leave out the ecosystemic reality of the world in and about which we discourse. Our minds interact with the minds of our interlocutors in a world, and our discourse arises from our internally and externally conflicting desires and interpretations of that world. Rhetorical memory weaves the canons together in the *kairos*, culture, and context of the present, an actuation (as opposed to actualization; to put into action rather than to make real and by implication complete) of Isocratean education emphasized in *Antidosis*. As Phillip Sipiora describes it, Isocratean education develops “an intense awareness of occasion, audience, and situational context” (15). Sipiora does not refer to rhetorical memory, but I argue it is precisely rhetorical memory that allows us to “[ground Isocrates’] theory in practical situations” (11).

Since I conceive the canons as interdependent phases, my argument has fundamental connections with how Stephen R. Yarbrough conceives the appeals, and in fact, it derives from Yarbrough’s work. In “Modes of Persuasion or Phases of Discourse?” Yarbrough argues, “discourse is a unitary process that can be analyzed into (at least) three phases—cognition, ethical apperception, and emotion—that roughly correspond to the classical ‘proofs’ of *logos*, *ethos*, and *pathos*” (491). In other words, Aristotle’s three appeals should not be perceived as three separate if interrelated elements, but as one process which can be *perceived* as having three parts, most importantly in temporal terms, with “cognition and emotion being parts of or produced by the apperceptive process” (492). *Ethos*, I argue in Chapter Four, temporally aligns the other phases of appeal as a field within which *logos* and *pathos* are activated, because it provides the center from which we interpret. *Ethos*, as Yarbrough describes it, is more

than just the character of a speaker. It is the set of relationships we assume to govern a given situation. “Character,” after all, is dependent on context. For example, we might assume the authority of a doctor when she speaks about medicine she is prescribing for an illness. But in order to make that assumption, we must recognize “doctor” as an authoritative category *when speaking about physical wellbeing*. If I am for example a Christian Scientist, perhaps I might not be so ready to make that assumption. Or, if I think doctors are in the back pocket of the pharmaceutical industry, I may or may not accept their authority, depending on my emotional reactions and logical conclusions in the specific situation. The point, in Yarbrough’s argument, is that ethos is a relationship between or among interlocutors that conditions the emotional reactions and logical conclusions those interlocutors see as possible, appropriate, and desirable. I extend his argument to claim ethos applies rhetorical memory as ethical grounding, for memory recalls, identifies, and establishes the sets of relationships we take to be authoritative in a new situation. Thus, rhetorical memory involves determining the relevant *ethoi* in a given rhetorical context.

At the heart of this study is a consideration of synapses, particularly the groundbreaking studies of Eric Kandel and subsequent researchers. I argue that the way synapses work, which I discuss in detail in Chapter Three, suggests that memory’s perceptive and interpretive functions, conducted by the synapses, operates as Yarbrough describes in considering the appeals as phases of discourse.¹¹ In another context, the biologist John Terborgh describes memory, romantically but accurately and apropos to this study: “The world of our youth serves as reference for all future comparisons.

History is thus not anchored in time but glides subtly ahead to capture the memories and impressions of each new generation in what the Canadian biologist Daniel Pauly has called the shifting baseline” (42). This shifting baseline is nothing but our situational *ethoi*, a collection of relationships that serves as a moving center from which to anchor and continually revise our associative sets of beliefs about our environment. Rhetorical memory grounds us to the discursive moment in which we intend to communicate.

I seek in this project to re-orient our conceptions of the canons and the appeals informed by neurological properties and social interaction. It is an ambitious project that will likely raise more questions than it can answer. The consequences of each stage of the argument could justify its own extensive study. But it is also, I hope, a productive contribution that helps further conversation about the intertwined relationship of rhetoric and composition as discourse, the developing wave of applications of neurological studies to the discipline, and above all the central importance of memory to discourse. I am not attempting a unified theory of discourse, but rather an integrated collection of principles, or rules of thumb, with which we can re-think classical concepts of rhetoric and apply them to education.

I am not a neuroscientist, and we do not need to become neuroscientists. In fact, neuroscience is doing its job; it’s meeting us halfway by communicating the field in popular literature. We can do our part to meet neuroscience halfway by incorporating the biological mechanisms of memory and discourse into the field. Doing so will enhance our teaching and empower our students by illuminating the mechanisms by which we think, communicate, and learn.

Having made in the course of a few pages a number of big claims, I need to define some primary terms that I will be using in the course of attempting to explain and support those claims. I recognize that my definitions of terms often overlap historical debates in rhetoric and composition. Space constraints and the need for coherence prevent me from addressing such debates in depth here, though I try to identify them wherever they are relevant. I ask that readers accept on a contingent basis these terms as described. It is my hope that the subsequent chapters will justify these definitions without slipping into tautologies.

Memory

For the most part, when I discuss neurological memory, I refer to what scientists call “declarative,” or “episodic” memory. This is the long-term narrative of what we perceive has happened, and what we most often think of when we think of memory. When I refer to other types of neurological memory, I try to include designators. Whereas I discuss neurological memory to explore how we remember, I discuss rhetorical memory to explore why, for what purposes, and with what effects we remember. Since all acts of remembering are rhetorical in the sense that we construct an interpreted perception of past events, on occasion the term “memory” in a given passage can refer both to neurological and rhetorical memory. By the end, I hope to dissolve much distinction between the neurological and rhetorical, except that the former is a biological fact and the latter is deliberate strategies for interpreting and employing memory in contemplation and discourse.

Ethos

While I touch on ethos in the classical sense of “character,” I do so from the standpoint of Stephen R. Yarbrough’s expanded, interactionist understanding of ethos as “the set of social relations we project upon a situation that determines how we interact with things” (“Phases of Composition” 499). I will go into great detail of Yarbrough’s conception in Chapter Three. Ethos, from this standpoint, is neither a “fixed essence” or “continually changing network of beliefs,” but “more like the role or roles we play...in a discursive situation, sometimes according to script but usually improvisationally” (ibid.). To put it in idiom, it’s not just a question of how I look, but why I would want to look that way. Much of our ethical improvisation in discursive situations is intuitive or even unconscious, but we also analyze and plan out how we will play our roles in discursive situations. Of particular importance to me is the role(s) we play that are “according to script,” especially those we play when we write. Many of these scripted roles are dictated and transmitted by our pedagogical practices.

Rhetoric

As defined by Aristotle, rhetoric is the art of finding the available means of persuasion in a given situation. I take rhetoric then to be the method of the communication act, because fundamentally all communication acts are persuasive in that they ask interlocutors to perceive a subject in a way intended by the rhetor. Rhetoric, as I understand it, is the faculty for crafting our discourse to be successful, i.e., understood inasmuch as possible in the way we wish, in a specific context. Rhetoric is fundamental to *all* communication, be it visual, oral, or written. I do not make a distinction among the

communicative faculties of gesture, sound, or mark. The differences are only in convention and, in the case of recorded speech and writing, time and space between interlocutors.

I therefore subscribe to what Edward Schiappa calls the “symbolic interactionist rationale” for Big Rhetoric:

All persuasive actions are rhetorical.
All symbol/language-use is persuasive.
Therefore: All symbol/language-use is rhetorical. (261)

Other than taking this position, I do not enter any “Big Rhetoric/Little Rhetoric” debates here.

Composition

Many studies detail the disciplinary divides between Rhetoric and Composition, and within Composition itself, and I refer to Connors, Crowley, Foster, and Fulkerson as some of the most articulate and comprehensive.¹² I will not go into them in any length here except to note the basic division between oral rhetoric and written composition, a divide I contend should be eliminated posthaste. I consider rhetoric to be the method of communication and composition to be the multivarious processes of preparing and/or improvising communicative acts—choreographing a dance, editing a video, having a conversation, preparing a lecture, writing a dissertation, texting a friend, all of these are compositions. Thus, the relationship between “rhetoric” and “composition” is simply that we compose rhetorically in order to communicate. Rhetoric is the method of communication that is crafted, i.e. composed. “Composition” is often taken to imply an

assemblage of discrete parts, which is why interactionists like Yarbrough prefer to use terms like “discursive interaction” or “intercourse.” I think of composition holistically as preparation. When we compose, we are preparing a communication act for future use. As I argue in Chapter Five, the canons of rhetoric should be conceived not as discrete steps in a process, but as recursive phases in a unitary act of preparation.

Culture

Culture is a fraught term that has many definitions in many disciplines. I use it to refer to the discursive behaviors that over time become habits that over more time become values reinforced by a social group. These habits are fundamental to the formation of the *ethoi* we take to be authoritative in any given situation. For example, “America” is an idea that has been debated in public forums and legislated in courtrooms since the colonial period. The evolving public debate and legislative codification informs the way we discourse about “America” and “Americans,” the way we interact with “Americans” and others, and the way we parent and educate successive generations, which adds layers upon layers of *ethoi* indicated and activated by the word “America.” This understanding of culture derives from symbolic interactionism as articulated by Herbert Blumer: human actions are based on the meanings they ascribe to the objects in their environments; those meanings arise from social interaction, through which interpretive processes are developed.¹³

Language

Most fraught of all of the terms I use in this work is “language.” I argue that the neurological research of Eric Kandel, Jean-Pierre Changeaux, Alison Gopnik, Joseph LeDoux, and others supports a Davidsonian conception of “language.” For Donald Davidson, language is not a constraining external system, but theories we constantly revise, abandon, reclaim, alter, and generate to communicate with each other using gestures, sounds, and marks. Kandel’s studies of synapses can support arguments that “language” is an aggregate of habitually associated concepts generated through interaction in a given environment, rather than an innate or representational “grammar.” Literary theorists and Chomskyan linguists alike champion the latter concept, but I argue these advances in neurological understanding of memory make innate or representational grammars less tenable.

Language in this formulation is a communally negotiated method of memory with which we record, synthesize, and interpret perceived reality. I am arguing in conjunction with this notion of language and the insights of neuroscience that rhetorical memory is not just some “storehouse” of past usage of memorable language but the living, streaming association of and navigation among topical relations that we synthesize and arrange in order to interpret our world and invent and stylize our discourse. Rhetorical memory is then, in part, our capacity for expressing intentions in ways we hypothesize will be intelligible and attractive to our discourse communities. We direct our memory, conditioned by the conventions of our communities, which we in turn revise through interaction, resulting in the need for constant revision of interpretations as conditions

constantly changed—the “shifting baseline” that is established through the ethical grounding of rhetorical memory.

Language, I assert, is a habitual method, standardized by historical power relations, relations that enable us to produce such social markers as “correct grammar.” Davidson, and subsequently Yarbrough, argues that what we call “languages” is based on memories of past habits and projections of future usages about how others will use sounds and marks to direct our attention toward objects or concepts in a preferred way. That is, we compose our rhetoric to achieve an intended interpretation. I offer some neurologically grounded support of Davidson’s and Yarbrough’s arguments by locating them in the physical workings of memory, and our rhetorical direction of our memories through thought and language. I concur with Davidson that thought and language are interdependent and arise together, i.e. that there cannot be one without the other. Language so conceived converges with George Herbert Mead’s declaration that consciousness enables a delay in our reactions, a pause within which we consider a given stimulus. This pause enables our ability to abstract a stimulus, and in abstraction, to encode it in words, phrases, and sentences. Lexicons are recorded histories of usage—mnemonic records—and language in practical usage is constantly revised via slang, neologisms, intercultural contact, and so on.

Methodology

That the brain is a shockingly complex organ hardly needs mention, and the potential pitfalls of neurorhetorics are many. In this study, I confine myself to a few foundational functions, primarily synaptic activity and neuroplasticity, and connect those

functions to rhetorical memory. I contend that these connections enable a re-consideration of how rhetorical memory and the canons as a whole work not as individual, separate activities, but as interwoven phases of composition. I am also making some applications to pedagogies outside of my field, for example a brief discussion about Living Learning Communities. I am not, however, claiming to be an expert in neuroscience or in Living Learning Community movements in higher education. I attempt in this dissertation to bring together several fields of inquiry, but do not claim to be comprehensive. I see this work as a first step in a sustained career of inquiry. I use works aimed at both professional and popular audiences, and identify when I am working with rawer data as opposed to data that has been interpreted and applied to particular phenomena by scientists, science journalists, and higher education administrators. Scientists often get criticized for looking for a “magic bullet,” a neuronal mechanism that “explains” the mind or the self. This project is not searching for any such bullet, nor any other so unfortunately named metaphor. The project is not scientific in that I do not hypothesize, experiment, and prove or disprove. Rather, the project is based in science, the distinction being that it uses science as a starting point and from there gets messy, contingent, and fallible. Such is the case when we theorize about discourse.

It is our job as rhetoricians, per Jack and Appelbaum, to interrogate data and scientists’ rhetorical framing of the data in order both to foreground our work in bringing neuroscience into rhetoric and to foreground the rhetorical choices and debates that underlie and at times undermine their conclusions. As I mentioned previously, I focus on

foundational work on which there is broad agreement, but whenever there are disagreements, rhetorical disconnects, or other issues, I try to identify them.

As a final pitfall, neuroscience changes rapidly, and some “definitive” conclusions are almost instantly overturned. I have no doubt some of the work I cite in this study will be obsolete by the time it sees print, and even more by the time anyone reads it. Again, to counter this inasmuch as it is possible, I am focusing on well-established foundational work that has held up over many years of experimentation and technological development, such as Kandel’s work with synapses. Whenever I reference newer, more speculative work, such as Marco Iacoboni’s experiments with mirror neurons, I include disclaimers indicating its contingent status.

I attempt to cover a lot of ground or, to be more accurate, fields, here. As simply as I can put it, I argue (a) that neurological memory works via a process I call synaptic mapping, which supports both the idea of ethos proposed by Yarbrough and of an indicative rather than representative theory of language, and that such a theory accounts for our agency in discourse and revising our *ethoi*; (b) that agency in a theory of language is crucial because ethos precedes and conditions pathos and logos in apperception and discourse; (c) that rhetorical memory is a method of ethical grounding which allows us to deliberate, persuade, and be persuaded, and that the canons of rhetoric are phases of a unitary process, temporally preceded by memory, which we can call composition (or something else); and (d) that Communication in the Disciplines and Living Learning Communities pedagogies offer productive models for discourse instruction that integrate classical liberal arts general education and contemporary specialist education. Now, I

imagine, would be a good place to unpack these ideas and give some orientation before we go in depth.

Chapter Two: Remember Rhetorical Memory

This chapter surveys historical applications of rhetorical memory, and demonstrates that it involves more than just mnemonic strategies for delivering speeches from memory. It identifies contemporary conceptions of rhetorical memory and then traces backwards to demonstrate the complexities of memory lost in post-Ramist composition-rhetoric. I invoke Robert Connors's term "composition-rhetoric" to refer to the historical fragmentation of rhetoric into separate fields of communication and composition, and review Connors's claim that composition-rhetoric became increasingly reliant upon systems of abstract categories and the practice of isolating canons from one another, or jettisoning them completely in favor of modes or some other equally abstract system. I suggest an increasing emphasis on rote memorization post-Ramus is partly the root of this oversimplification of rhetorical memory. Memory as treated by classical thinkers reveals that their views on "composing" were substantially more nuanced and recursive than both current-traditional and process-based theories of composition recognize. I argue that rhetorical memory is not just some "storehouse" of invention, but an associative data stream that is situated in space and time.

Chapter Three: Synaptic Mapping and Causal Language

Traditional conceptions of rhetorical memory are either too limiting, if they consider memory merely to be mnemonics, or too ambiguous, if they concern the

mysticism of the Hermetic memory theaters. Neuroscience offers us both insight into how our brains remember and a practical vocabulary for articulating our agency in interpreting, recalling, considering, and revising memory. This chapter demonstrates the physical processes of “natural memory” and “artificial memory,” the terms classical rhetoricians use to categorize the phenomena of unconscious remembering and conscious recollection and manipulation of the remembered in present contexts.

Philosophers and rhetoricians from the start have relied on ambiguous and mystical language to describe memory, most famously the “memory palace.” This is another primary factor preventing rhetoric and composition studies from reclaiming memory as a serious aspect of study. Chapter Three argues that neuroscience provides us a critical vocabulary and perspective that, perhaps surprisingly, demonstrates metaphors like “memory palaces” are not as metaphorical as we might have supposed. Specifically, synaptic activity—the fundamental mechanism of memory—is an associative process of linking neurons that transmit information and form concepts, interpretations of the world we constantly revisit, revise, and extend. I conceptualize the activity of rhetorical memory as a physical process of revealing and revising “synaptic maps,” my term for the associative network of synapses that make up memories.

Next, I argue that neurological descriptions of synaptic activity support a Davidsonian/Yarbroughian conception of language as “causal,” rather than “representational.” I argue further that “causal” theories of language allow us to be more precise about the future-oriented intention and impacts (not all of which can be intended).

Understanding language as causal opens up new ways to consider not just rhetorical memory, but rhetoric and composition themselves.

Chapter Four: Ethos and Discourse

The fourth chapter situates the mechanics of synaptic activity and indicative language theory upon a consideration of ethos. I argue the way memory physically works supports Stephen R. Yarbrough's conception of ethos, and that the ethics of a given situation, given our understanding of synaptic activity, are a synaptic map of connected concepts adapted to the moment. Ethos is a situational interpretation based upon personal and cultural history.

Rhetorical memory as ethical grounding involves a re-thinking of what ethos is and how it works. Yarbrough's argument that the appeals are phases of a unitary process of interpretation is important to understanding how rhetorical memory is both an individual and communal activity, and as John Frederick Reynolds points out, a form of data retrieval conditioned by psychology, a combination of nature (inborn traits) and nurture (social conditioning). Psychology and social interaction bring together the conceptual functions of ethos and rhetorical memory.

I also suggest that synaptic maps can be usefully seen as Aristotelian topics, sets of relationships we learn and apply to predicted possible futures as we prepare and improvise discourse. We categorize in our memories experiential phenomena in terms of interactive relationships—comparisons, cause and effects, and so on. Our neurological mechanisms are designed to categorize in terms of relationships. Aristotle's list of *topoi* is a simple codification of some of those complex synaptic interactions. These *topoi*,

consequently, suggest that, in phases of discourse, ethos precedes and conditions pathos and logos: that is, discursive interaction activates ethical apperception, which sets up emotional reaction and cognitive interpretation, beginning acts of discourse.

Chapter Five: Ethical Grounding and the Phases of Composition

I argue in this chapter that rhetorical memory *is* ethical grounding, or more broadly, methods by which we determine, in the context of our intended results, relevant *ethoi* for a given subject to be spoken or written about at a given time in a given place, i.e. reflection and research. That is to say, rhetorical memory involves identifying the timing (*kairos*), context, and cultural assumptions (*prepon* or *decorum*) within which a communication act takes place, which, in turn, conditions the way a rhetor will present herself as an authority on the subject based on the rhetor's intended results. Moreover, this determination conditions questions of what we will say (Invention), in what order we will say it (Arrangement), how we will say it (Style), and in what medium we will say it (Delivery).

Rhetorical memory as ethical grounding also involves re-thinking its relationship among the canons. This chapter employs aspects of Yarbrough's argument about the appeals to make a similar case for the canons as phases of a unitary and recursive process of composing. The process "begins"—a word that will be situated in somewhat postmodern terms—when something in our environment resists our expectations, and we are moved to discourse. Rhetorical memory situates and activates the other canons as phases in a recursive, unitary act. That is, deliberations of rhetorical memory, what we might more commonly call reflection and research, condition our choices of Invention,

Arrangement, Style, and Delivery. Process-oriented theories of composition already focus on the recursive nature of composing. I take recursivity to its logical conclusion: the canons are also a unitary process that can be analyzed in phases. I conclude that the conception of the canons I offer is an accurate description of the actual processes by which we interpret, communicate, and form concepts. It stands squarely against any rote form of learning, Ramus-influenced or otherwise. Moreover, it is a question-based approach to rhetoric that orients the canons with the question, “why am I about to discourse?” This orientation establishes rhetorical fields for the canons.

Chapter Six: Pedagogical Implications

Finally, rhetorical memory as ethical grounding offers various possibilities for composition pedagogy and university education. The purpose of this study is to develop a foundational perspective that updates classical rhetoric in terms of modern neuroscience. This approach to rhetorical memory as the custodian of the canons offers ways to deliberately arrange synaptic maps, effect ethical shifting, and interpret in multiple ways. It furthermore reclaims the interdependent unity of the canons in order to articulate composition as something we do interactively, within a wide-ranging set of communities and cultures, and from a number of potentially competing stances. This chapter briefly sketches some possible applications to composition pedagogy and critical theory which may be explored productively, specifically Communicating in the Disciplines (CID) pedagogies and Living Learning Community (LLC) approaches to university education.

CHAPTER II

REMEMBERING RHETORICAL MEMORY

Blessed are the forgetful, for they get the better even of their blunders.
--Friedrich Nietzsche

The banishment of rhetorical memory from the canons of rhetoric is symptomatic both of composition's historical development, and of rhetorical memory's own history, a history which has obscured memory's varied roles in composing, and handicapped scholars' attempts to apply it practically in terms of writing. While several works have demonstrated that rhetorical memory had far wider utility to classical and scholastic rhetoricians than memorization techniques, these works have not gained much traction in modern composition studies.¹⁴ As I wrote in the Introduction, the influence of Edward P.J. Corbett's *Classical Rhetoric for the Modern Student* continues to displace memory from the field. This chapter takes some initial steps in recasting rhetorical memory as the canon by which communication acts are ethically grounded in their situation. In this literature review, I highlight historical shifts in rhetorical theory that simplified memory in or removed memory from composition, and I identify important aspects of memory that should be re-examined.

Forgetting Memory

Corbett's summary dismissal of memory—and of delivery¹⁵—from the canons could be seen as a side effect of the way the composition course developed in America.

In *Composition-Rhetoric*, Robert J. Connors explores the pedagogical shift from oral rhetoric to written composition, noting a number of factors leading to the separation of discourse studies into speech-communication and written discourse, which eventually became separate disciplines within communications and English departments, respectively. Among these factors seems to have been a lack of pedagogical imagination: In early American composition, “[t]he older discipline of rhetoric did contribute some of the ideas and definitions that were in general suspension, but no one was certain how to grid older orally attuned rhetorical concepts to the problems of writing” (8). This lack of imagination seems to have been part of the training for teachers. The proliferation of American scholars trained in the popular German universities, which privileged scientific systemization, pushed rhetoric to the margins precisely because rhetoric was considered unscientific in an era of naïve realism and rationalism (178-80). The post-Enlightenment myth of rationality, one that posits a dispassionate “medium” of writing and its objective interpretation by an informed reader, shapes the discipline of composition at its outset and remains enormously influential, particularly, as Sharon Crowley points out, in current-traditional rhetoric and its descendants (*Composition in the University*, 94-95). For instance, during the pedagogical shift from oral to written composition, in the canon of invention, the “subjective” categories of ethos and pathos became totally subordinate to the apparently more “objective” category of logos (Connors 63). The canon of memory, however, was not merely altered; it was eliminated, assumed to be unnecessary, having been replaced by the instrument of writing.

The continued deletion of memory—and of delivery—in contemporary pedagogy rests on the assumption that the dominance of oral discourse neatly shifts to the dominance of written discourse after the classical era (Welch 6). This assumption holds today despite having been demonstrated to be false in the work of Eric Havelock, Walter Ong, and subsequent researchers, work which has illustrated that oral and written discourse have been closely intertwined at least since Plato.¹⁶ Orators, for example, wrote drafts, frameworks, and reminders to guide their speeches and prepare them for extemporaneous flourishes. After the speeches had been delivered—sometimes long after—they were written in publishable form. This method of supposedly “oral” composition is recognizably contemporary in its recursive process of drafting and revision, and thus implies that the “shift” from oral to written composition resulted more from historian’s elisions than actual cultural changes. Memory, furthermore, played a much more complex role in oral delivery than rote memorization, even as written texts became more and more common.

Nevertheless, later scholars eliminated not only memory but also history itself, both victims of the ahistorical universalism assumed by those with rationalist attitudes to be characteristic of all legitimate knowledge. Beginning in the 18th century, composition, in breaking from rhetorical traditions, relied on textbook pedagogies, which trained teachers as well as students to view composition as ahistorical and without context.¹⁷ These textbooks separated writing into detached and isolated units which focused on invention, arrangement, and style as separate activities to be conducted in order: “[the] questions and exercises [in the books], like the chapters themselves, were atomistic,

breaking down writing into many discrete subskills, and knowledge of written conventions into hundreds of unrelated smaller elements” (Connors 73). We can trace this mechanistic pedagogy from composition textbook writers like Alexander Bain back to Peter Ramus, and farther back to Quintilian, if we look at the changes in memory from the Classical to the Renaissance era. Neither Connors nor the studies he cites take up rhetorical memory specifically, but by reading them in conjunction with studies of memory in antiquity, in particular Frances A. Yates’s authoritative *The Art of Memory*, we can understand how Ramus’s influence figures into memory’s disappearance from American composition pedagogy. Primarily, this disappearance results from Ramus’s shift of memory away from rhetoric and into dialectic, a shift that attempted to establish an order for rote memorization rather than the classical, imagination-based artificial memory. Ramus, as Walter Ong argues,¹⁸ reorganized rhetoric, removing memory. Often, commentators have noted that Ramus placed memory into dialectic. In a review of Mary Carruthers’s *The Book of Memory*, Ong clarifies. It is, he writes,

not quite accurate to say that Peter Ramus took memory from rhetoric and made it ‘a part’ of dialectic [as Carruthers does in fact say, on pg. 153]. He took it from rhetoric and dropped it. The two ‘parts’ of Ramist dialectic were invention and judgment or ‘arrangement,’ each with two further parts, each of these made up of two further parts, and so on and on. Memory was not treated as such because Ramist dialectic arranged the whole of every subject, including dialectic itself, in the way Ramists maintained every subject was in itself constituted, that is, in binary divisions like those in a computer flowchart. The Ramist noniconographic flowcharts of textualized words were themselves universally applicable memory systems. Properly apprehended in its purportedly natural dichotomies, knowledge of itself simply *was* memorable—or, in our modern idiom, user-friendly. (124)

Yet in crafting these “flowcharts,” Ramus emphasized a decontextualized, rote method of learning (memorizing) that fundamentally distorted the role of memory in classical and scholastic rhetoric. Influenced by and working against Quintilian, Ramus in turn influenced Puritan educational methods that have dominated American education at least until Dewey.

Memory from Greece to Rome to the Renaissance

The art of memory begins with the myth of Simonides, who managed to identify corpses in a banquet room upon whom the ceiling had collapsed by associating each person’s identity with where he had been sitting. From this ghoulishly comic story comes the notion of memory as associative connections of things to locations, and the development of methods of improving memory for the purpose of delivering both prepared and extemporaneous speeches. Methods among various philosophers and rhetoricians vary, but all attempt to “imprint” the memory in *topoi* (“places to find things”), and delineate between natural memory—our ability to remember—and artificial memory—techniques for developing and harnessing the natural memory. Traditionally, the most common technique in classical rhetoric is the memory palace, an imagined building in which different parts of a speech are associated with different rooms. As the orator imagines himself moving from room to room, he recalls his speech by aid of mnemonic devices located within the room. (A horse statue next to a crown might mnemonically trigger a declamation on the reign of a current ruler, for example.) Yates emphasizes the subjectivity of the art of artificial memory, which “reflects ancient architecture but in an unclassical spirit, concentrating its choice on irregular places and

avoiding symmetrical orders. It is full of human imagery of a very personal kind..." (16). Thus, the basis of rhetorical memory is *subjective* associative connections; rhetorical memory is not wholly logical or rational, therefore, but a combination of ethical, emotional, and logical assumptions and conclusions. This is extremely important to rhetoric and composition, because it restores the full rhetorical dimensions of both natural and artificial memory: ethos, pathos, and logos, intertwined and inseparable.

Because we have an incomplete record on memory in ancient Greece and Rome, we cannot ever make an exhaustive explanation of artificial memory, with which rhetorical memory is primarily concerned. We can, however, draw some relatively confident assertions based on the Latin sources that most directly inform all subsequent treatments of rhetorical memory: Cicero, the *Rhetorica ad Herennium*, and Quintilian.

Yates makes several other important points any contemporary consideration of memory should take into account. First, she reminds readers that no full treatise on rhetorical memory exists; neither Cicero nor Quintilian provides one, and while the *Rhetorica ad Herennium* is the closest we have to a full account, its author, like Cicero and Quintilian, assumes its readership to be "familiar with artificial memory and its terminology" and therefore provides no review (4). Moreover, the *Ad Herennium*'s author only refers to rhetoric for speaking, announcing, "I have omitted to treat those topics which, for the sake of futile self-assertion, Greek writers have adopted" (I.1.1).¹⁹ It is unclear whether the author means to disparage the Greek writers, to separate the topics of speaking and writing, or both. What is key to understand is that modern readers have only a partial record of exactly what artificial memory entails for the classical authors.

Second, Yates illustrates evolving conceptions of memory that indicate technological, sociological, and intellectual changes. While we do not have a full account of what rhetorical memory was, we do know that it evolved and continues to evolve, which is important as we adapt classical conceptions to contemporary contexts while maintaining continuity with those classical conceptions. Third, Yates demonstrates definitively that the art of memory was far more than methods of memorizing speeches for classical rhetoricians. Identifying memory's subjective, irrational grounding and its complex and various uses offers opportunities for new, practical applications of rhetorical memory to composition, and for a reassessment of how the canons of rhetoric play into composition.

For Cicero and in the *Ad Herennium*, memory entails more than mnemonic techniques. Cicero separates artificial memory into two parts: *memoria rerum* (memory of things) and *memoria verborum* (memory of words) (*De inventione* I, vii, 9). That is, there are things that we must remember and represent in words, and there are words that we must remember in order to represent things accurately. Ideally, for Cicero, a rhetor should be in strong command of both, but he regards memory of words as far more difficult, for it is easier to memorize things in association with images (Yates 9). The *Ad Herennium* explains why it is easier to memorize things in association with images: memories are strong when they have emotional associations (III, xxii). The emphasis on subjective associations confirms the idiosyncratic nature of rhetorical memory, and the *Ad Herennium* explains that after learning its method, orators create their own memory systems (III, xxiii, 39). Moreover, the foundational method implies that words themselves

are mnemonic devices that spur subjective, associative memories of the things they represent.²⁰

Cicero and the *Ad Herennium* emphasize the sense of sight in memory, as do most extant discussions of memory since Simonides. Visual images create the emotional weight in associations that strengthen the memory. Quintilian, however, dismissed sight's importance. He notes that the mental imagery of the memory palace, for example, is useful (XI, ii, 23-25). However, he places far more value on rote memorization: "There is one thing which will be of assistance to everyone, namely, to learn a passage by heart from the same tablets on which he has committed it to writing" (XI, ii, 32). He offers advice on the best ways to memorize via rote repetition and breaking speeches into shorter pieces (XI, ii, 27-29). Quintilian's emphasis reduces memory's role in composition to mere retention of information.

This seemingly minor difference between Quintilian and the Simonidean tradition represented by Cicero and the *Ad Herennium* is at the heart of memory's decline in rhetorical study. Cicero, Yates notes, was a Platonist, which contextualizes his ideas of memory's purpose in rhetoric, primarily that rhetoric strives to reach the Ideal (20). The Platonic influence appears most clearly in Cicero's view on Prudence, which includes three parts: memory which recalls what things are, intelligence which identifies the good and bad, and foresight which predicts the best outcomes of possible actions (*De inventione* II, liii, 160). Interestingly, while Cicero was philosophically a Platonist in terms of memory's ultimate purpose (recalling the Ideal knowledge in the soul), his use of memory was much closer to Aristotle's in that it was situated in a rhetorical context,

e.g. preparing a political speech. That is, whereas both Plato and Aristotle used memory to establish ethos, Platonic memory looks back to recall the metaphysical forms (idealism), and Aristotelian memory looks back in order to make predictions about how to act appropriately and effectively in present and future contexts (pragmatism). Cicero's blurring of Plato's idealism and Aristotle's pragmatism underlies a rhetoric that strives for the metaphysical ideal by engaging in political realities.

Cicero's view of memory as the foundation of Prudence influenced the later evolution of rhetorical memory in the works of medieval religious scholars. The Scholastics, most notably Albertus Magnus and Thomas Aquinas, moved artificial memory from rhetoric to ethics (Carruthers, *The Medieval Craft of Memory* 119, Yates 21). Like Cicero, Magnus saw memory as an ethical tool, a "moral habit when it is used to remember past things with a view to prudent conduct in the present, and prudent looking forward to the future," as Yates puts it (62). Mary Carruthers underscores memory's alignment with Prudence, which meant the entirety of a person's awareness of everything. Memory includes moral judgment and ethical character (Carruthers *The Book of Memory* 9, 184). The idea of memory as a "habit," rather than just a "storehouse," and moreover memory as an activity (habit) with a purpose (prudent conduct) is important, for it expands both memory's scope and the individual's agency in directing it.

Magnus's conception of memory as a purposeful activity is often overshadowed by what we now think of as the *art* of memory, memory as a system of complex imagery for remembering things, which comes from the Middle Ages, not from Greece and Rome. Yet the imagery does include memory's purposefulness. The medieval reader

read the rules [from Cicero, the *Ad Herennium*, and Quintilian], not in association with any living practice of oratory, but in close association with the teaching of Tullius [Cicero] on ethics in the First Rhetoric. ... The aim of the learned Dominican friars...was to use the new Aristotelian learning to preserve and defend the Church, and absorb it into the Church, to re-examine the existing body of learning in its light. (Yates 77)

Thus, the purposeful activity of memory is to defend Church doctrine and spread its didacticism in a memorable way, through striking imagery.²¹ This imagery remains subjective while utilizing well-known iconography from both classical mythology and Biblical texts. This is an important development of memory as “memorableness,” to use John Frederick Reynolds’s term (9). The Scholastics used common source material, Biblical and Church doctrine, to create images for mass audiences that would be striking in subjective ways; thus, rhetoric attempts to simultaneously establish an ethical center for its audiences and use that center to excite desired reactions.

The focus on images was intense. As Carruthers writes, “*Memoria* unites written with oral transmission, eye with ear, and helps account for the highly ‘mixed’ oral-literate nature of medieval cultures that many historians of the subject have remarked” (*The Book of Memory* 122). The development of memory, then, reduced other sensory stimuli to visual representations, e.g. synesthetic images that would be as memorable as possible to congregations, and religious orators would combine words and images in dramatic fashion. For example, the Dominicans used both the vernacular language and frescoes, as well as pictures they conjured in listeners’ minds, to move their congregations and also to make the sermons memorable. Vivid imagery and rhythmic language were more likely to fix the lesson in place (Rowland, “What the Frescoes Said” 35). Writing about Lina

Bolzoni's study of medieval frescoes, Ingrid D. Rowland summarizes the influence of this visual emphasis, making an important point of contact to contemporary media:

This...was where medieval preaching ended up, long after the end of the Middle Ages: all five senses were engaged in imagining celestial extremes of pleasure and pain, mental images so vivid that they can be heard, tasted smelled, and touched, as well as seen with the mind's eye. It sounds positively cinematic, which is why Lina Bolzoni's title *The Web of Images*, with its reminders of another Web, gently prods us to wonder how much our 'new' image-laden culture is also connecting us back to some much older habits of human thought. (37)

The strategies of the Scholastics no doubt had much to do with the illiteracy of their congregations, but also were congruent with Greek and Roman associations of words with images. However, The Scholastic attempts at "memorableness" became obscured in later rhetoric and composition because memory was repurposed and delimited for dialectic, which was considered separate from rhetoric based on Plato's and Aristotle's formulations.²²

Next, as we enter the Renaissance, Scholastic—and Church—influence on intellectual work weakens somewhat. New, humanist scholars demonstrated Cicero was not the author of the *Ad Herennium*, which weakened its authority. Quintilian was a much larger influence on the humanists, and Quintilian favored rote memorization rather than the art of memory. Erasmus's *De ratione studii* was the "basis of the grammar schools" (Abbot 98). His view on memory is generally representative when he notes, echoing Quintilian, "Though I do not deny that memory can be helped by places and images, yet the best memory is based on three most important things, namely study, order, and care" (qtd. in Yates 127). Don Paul Abbot, in his survey of English grammar schools of the era,

writes, “What grammar really meant to the masters of the grammar schools was what it meant to Quintilian” (97). Memory here begins to function as a purely abstract, logical method for ordering and memorizing information. With the humanists, memory starts to lose its role in contextualizing, composing, and revising. Instead, memory is subsumed in service to rational logic.

However, Renaissance thinkers also developed a second strain of memory study, one that preserved and developed the “art” of memory. This mystical strain is important to consider, for it emphasizes memory, as well as the imagination, as an inventive force, rather than solely as a method for rational ordering. Memory as an art developed in Hermetic thought, most prominently represented by Giordano Bruno. The Hermetics embraced occult mysticism and developed complex memory theaters and imagistic systems powered by the “magic” of the imagination. The Hermetic memory system changed memory into an occult art, based on memory theaters, the zodiac, and other magic. Yates notes it is hardly possible for a modern reader to understand clearly what purpose the memory theaters were intended for, and how they were supposed to achieve that purpose. Fundamentally “the Idea of a memory organically geared to the universe” (145) was at heart an attempt to lead mystics to the (Platonic) Forms: “The microcosm can fully understand and fully remember the macrocosm, can hold it within its *mens* or memory” (148). The memory is man’s (the microcosm’s) method of realizing his own divinity (the macrocosm). It is akin to Platonic anamnesis, as described by R. E. Allen, “a theory of inference, [resting] on the intentional relations which the Forms bear to one another” (167). The lineage of Platonic anamnesis to Hermetic memory theaters is not

direct. Yates connects the occult mysticism of the memory theaters to Lullism—based on the teachings of the 14th-century mystic Ramon Llull—which introduces memory as a method of investigation. Lullism derives from Neoplatonism, and differs from classical rhetorical memory, which seeks only to remember what is given rather than to use memory as a method of discovery (Yates 185). Lullism based its memory system on “Divine Names,” similar to Platonic forms. It used series of circles, triangles, and squares in which the names and the ideas they mnemonically represented could rotate and match in different orders. This movement indicated changes in the individual psyche. In other words, Lullist memory allowed for a changing rather than static self (Yates 176). Moreover, the rotations allowed for intentional inferential associations between and among particulars to their Forms; the discovery of these linkages through deliberation allowed the recollection of relationships of knowledge that necessarily lead to one another. In Hermetic thought, the influence of Lullism manifests in the construction of memory theaters, in which imaginative methods of unlocking the divine secrets of the universe are represented by giant, multi-tiered theaters—circular structures—in which each tier contains memorable, usually divine, objects.

Yates’s study of the Hermetic memory theaters illustrates their near-inscrutability. As she puts it, “[I]nto the old bottles of the art of memory there has been poured the heady wine of the currents of Renaissance ‘occult philosophy’...” (145). Many of the Hermetics were fixated on magical numerology, for example Giordano Bruno’s fixation on the number thirty as key to the secrets of the universe (210). Finally, the purpose of

these memory systems “is to establish this magical ascent within, through the memory based on the magical star-images” of the zodiac or other sources (228).

The ambiguous and mystical language and imagery of the Hermetic systems renders them hopelessly opaque to much modern consideration of rhetorical memory. Yet their importance in developing memory as an associative, impressionistic, and subjective method of invention and navigation of changing elements of the human mind—as opposed to memory as a static form of recollection—cannot be overstated. Individual, emotional subjectivity powered the Hermetic systems. While the Hermetic memory systems grew more and more complex, the humanist thinkers found their apotheosis in Peter Ramus.

Ramist Influence

Ramist memory stemmed from humanists and Quintilian, and rejected imagistic memory palace and memory theater methods. Ramist memory, like that of Quintilian, emphasized rote memorization and influenced Puritan thought particularly after the Renaissance (Yates 232-7). Ramus, Yates writes,

abolished memory as a part of rhetoric, and with it he abolished the artificial memory. This was not because Ramus was not interested in memorizing. On the contrary, one of the chief aims of the Ramist movement for the reform and simplification of education was to provide a new and better way of memorizing all subjects. This was to be done by a new method whereby every subject was to be arranged in a ‘dialectical order.’ (232)

Ramus’s program was based on Quintilian’s recommendation of an art of memory based on “dividing and composing the material” (233). This division of composition into

discrete stages, in turn, is the basis of Ramus's "schematic form in which the 'general' or inclusive aspects of the subject came first, descending thence through a series of dichotomized classifications..." and so on (232). Ramus calls this a natural dialectic. He argues that it is "his mission to restore the dialectical art into its 'natural form, its pre-Aristotelian, Socratic and pristine nature" (240). The explicit banishment of memory from the canons meant that the Hermetic tradition primarily informed modern rhetorical consideration—for Corbett, *et al.*, rhetorical memory was either mnemonics or magic.

Ramus removed memory, along with invention and arrangement, from rhetoric and into dialectic. His purpose in doing so was to utilize dialectic for inventive purposes before turning to rhetoric, which he considered style and delivery only. Unfortunately, as Janine Rider notes, Ramus's "legacy for teachers of writing seems to be not his theory of dialectic, but his idea of rhetoric, which is divorced from the generation of ideas and concerned only with style and delivery" (22). Ong identifies the irony of Ramist memory, arguing, "the real reason why Ramus can dispense with memory is that his whole scheme of arts, based on a topically conceived logic, is a system of local memory. Memory is everywhere, its 'places' or 'rooms' being the mental space which Ramus' arts all fill" (*Ramus* 280). Ong further explains that contrast. Whereas ancient orators used memory as a method for delivering speeches extemporaneously, having readymade mental "places" of thematic and rhetorical formulas to aid in spontaneous composition, by Ramus's era, writing had supplanted orality to the point that it was easy to simplify memory as strategies for memorizing from the page.²³

Here we can see two primary problems with current views of memory that stem in part from Ramus. One, memory simply is not considered part of rhetoric, as evidenced still in most current textbooks. Two, even if Ramus's notion of memory had been remembered, as it were, that notion was memory merely as a storehouse which the arts of composing fill, which does not account for revised interpretations of memories that constantly occur in lived experience. Moreover, he preferred to emphasize rote memorization from written documents, rather than access the more "subjective" aspects (ethos, pathos) of memory.

The subtleties, such as there were, of Ramus's views on memory were lost on the "Puritan Ramists, who were extremely powerful and vocal at this time [16th and 17th centuries], [to whom] the imageless 'dialectical order' was the only art of memory" (Yates 261). The appeal of Ramus to the Puritans, argues Yates, was in the method—Ramus popularized the word (369)—of its inquiry. To them, "[t]he dialectical method was emotionally aseptic. Memorizing lines of Ovid through logical disposition would help to sterilize the disturbing effects aroused by the Ovidian images" (275).

John C. Adams notes that "most of the significant English and subsequent New England colonial Puritans were Ramists," and of particular acclaim were the educational tracts of Alexander Richardson, whose *Logicians School-Master* brought "the precepts [of] Ramist dialectic, grammar, and rhetoric into line with his Puritan philosophy, which placed utility above authority and made practical activity the end of knowledge" ("Alexander Richardson's Puritan Theory of Discourse" 255-6, 260). Richardson divided grammar and rhetoric (proper speech and eloquent speech), the latter of which held only

a pathetic function, and further divided grammar into etymology and syntax, further atomizing the study away from situational contexts that didn't involve authority derived from God (266-7, 269). This simple fact had a huge impact American education, and in composition instruction, where Ramist emphasis on "method" took primary importance.²⁴ Puritanism influenced the development of the American university (along with the rationalist, logos-privileging German university culture), and the Ramist emphasis on rote learning remains a major presence, particularly in secondary school English literature and grammar/writing instruction. The Ramist legacy of intellectual sterility is well-described by Yates:

The extraordinary success of Ramism, in itself a rather superficial pedagogic method, in Protestant countries like England may perhaps be partly accounted for by the fact that it provided a kind of inner iconoclasm, corresponding to the outer iconoclasm. ... And there can be no doubt that an art of memory based on imageless dialectical order as the true natural order of the mind goes well with Calvinist theology. (237)

The Ramist-derived rote learning model had a second influence as well, that of eighteenth century Scottish education, aspects of which meshed easily with Puritan values of self-improvement and work.

As I mentioned above, textbook-based education in America, which was often primarily credited to (or blamed on) Alexander Bain and his textbook, *English Composition and Rhetoric* (1886), promulgated a mechanistic pedagogy that broke writing into discrete components. Winifred Bryan Horner argues that an American push for "practical" education derived from and mirrored Scottish feelings of colonial inferiority, and aimed to train students to speak and write like proper gentlemen (170,

172). She notes that “Bain has been vilified by the composition theorists, who attribute to him the worst of the current traditional rhetoric practices” (178). Andrea A. Lunsford offers a treatment of Bain that gives a more nuanced view. Making a strong case from examination of Bain’s textbooks and 1904 *Autobiography*, Lunsford argues that Bain’s background as a weaver who eventually clawed his way into University and battled class and religious prejudices his entire life influenced his passion to help young Scots enter “the traditional corridors of institutional power” (220). Moreover, Bain’s disdain for rote memorization (221) and interest in psychology led him to reject the modes of discourse in the enlarged edition of his textbook in favor of a less “univocal” approach to discourse (222). However, to Bain’s disappointment, the simpler edition of the textbook, which emphasized the modes, was much more popular with teachers (223). Lunsford argues that Bain’s psychological interests led him to speak “repeatedly of the plasticity of the brain,” and advocate writing and reading situated in contemporary concerns of students, as well as what we would now call “critical thinking” and “writing across the curriculum” (223-5). Lunsford does note, however, that despite the complex reality of Bain’s pedagogical philosophy, his “dependence on a Ramist ‘division of labor’ in teaching is evident throughout all his work,” and his influence is most greatly felt in that atomistic compartmentalizing of written composition instruction (227).

Shedding further light on the development of American composition instruction, S. Michael Halloran argues that much of the influence on American rhetoric and writing education in the first half of the nineteenth century²⁵ stems from Hugh Blair. The wide influence of Blair’s *Lectures on Rhetoric and Belles Lettres* in American schools

influenced a view of rhetoric that “demphasiz[ed] its political function,” rather, “[t]he social function of rhetoric [was] not so much to prepare men for controversy as to confer on them the marks of gentlemen so that they might ‘fit in’” (“Rhetoric and the English Department 7). This view derived from the aforementioned movement in Scottish universities to “civilize” students so that they might enter polite English society. Halloran remarks, “Blair’s ideal orator is not the man who takes sides in public issues, but one who moves up a social ladder by adopting the outward marks of the elite class” (7). The idea that there already was a privileged discourse coming from England ensured that such a hierarchy would take root in America, Halloran continues, for, “Like Scotland, we undertook to develop a national literature. And as in Scotland, the colleges began taking on a role of certifying that their graduates were equipped as ‘suitable’ members of a social elite” (8). Finally, Halloran concludes, this explicit degradation of rhetoric in service of imposing privileged discourse conventions on students led to a discipline—English Studies—that theorized reading and writing as private acts of solemn “joy” with texts. Until this point, rhetoric was not private at all, but the method by which “we construct the communities we live in” (10). This view will not be foreign to contemporary rhetoricians and compositionists, and one may well argue it remains ensconced in many English departments across the country.

In the end, whatever the sources of American education—German and Scottish universities, Puritan Ramism, colonial inferiority—the fact is, rhetoric and composition experienced a divorce and uneasy reunion, and what came to be called “current-traditional” rhetoric dominated into the twentieth century, and still holds sway in many

schools today. This description of writing instruction is certainly familiar to many who learned to write in American schools even in the last 25 years—I definitely recall learning this way—the “...imageless Ramist epitome of Grammar memorized from the printed page” (Yates 234), and the emphasis on “correct” grammar and dialect as entryways into polite society and professional success.²⁶ This legacy obscures memory’s history, which we must recover and rethink. It also obscures memory’s influence on the “rational” scientific method that developed in the 17th century, an influence I want to briefly touch upon by way of setting the stage for the next chapter.

Re-Membering Memory

The complexities of memory pre-Ramus and the hidden influence of memory post-Ramus are crucial to this study. After Ramus, another monumental change in the art of memory was the development of the scientific method. Yates writes, “if Memory was the Mother of the Muses, she was also to be the Mother of Method. Ramism, Lullism, the art of memory—those confused constructions compounded of all the memory methods which crowd the later sixteenth and early seventeenth centuries—are symptoms of a search for method” (306). In the 17th century, primarily represented by Yates as Descartes, Bacon, and Leibniz, “memory underwent yet another of its transformations, turning from a method of memorizing the encyclopaedia of knowledge, of reflecting the world in memory, to an aid for investigating the encyclopaedia and the world with the object of discovering new knowledge” (368-9). The influence of Bacon particularly is “the art of memory ... used for the investigation of natural science, and its principles of order and arrangement ... turning into something like classification” (372). The

underpinnings of the scientific method are applications of rhetorical memory—memory for things (*memoria rerum*) and their associations, and words for things (*memoria verborum*) and their classifications. Certainly, this is ironic given the “unscientific” nature of rhetoric, but as numerous studies on the rhetoric of science have demonstrated,²⁷ the privileging of logos and banishment of ethos and pathos by science is itself a rhetorical act. This is one reason reconsidering the history of rhetorical memory is useful. Perhaps adding to the irony, in Chapters Three and Four, I argue neuroscience offers us ways of considering memory that allow rhetoricians to fully restore the relationship among ethos, pathos, and logos. That is to say, science offers a corrective to the applications of scientific method to rhetoric that have privileged logos. Specifically, neuroscience gives us insight into Aristotle’s conceptions of memory, and vice versa. Aristotelian classification methods are, it turns out, quite similar to the neurological processes of memory.

In order to explore the implications of rhetorical memory as a method of classification, then, we must look back to Aristotle, whose views of memory were wholly material, in contrast to Plato, and very close to the modern scientific method. This is fitting, as Ingrid D. Rowland recognizes in her study of Giordano Bruno, for the Scholastics philosophy was the world of Aristotle Catholicized, and it basically ignored any other philosophies. Neoplatonists, such as Bruno, challenged this worldview with a visionary and poetic bent. Bruno was unique in combining the systematization of Aquinas and Aristotle with the vision of Neoplatonism in creating his memory theaters.²⁸ While Aristotle informs both the humanistic and scholastic spirit of inquiry, Plato’s

metaphysics informs the mysticism of the Renaissance. The Hermetic contradiction to Aristotle, represented by Bruno, is that a memory based in the astral plane cannot cooperate with Aristotelian natural philosophy (Yates 252). Yet, while Aristotle's thought is foundational for medieval memory, the overwhelming presence of Quintilian and, in later centuries, Ramus, supplants Aristotle's influence. Further, as I discuss in Chapter Five and Appendix A, Plato's memory is rooted in the world in ways the Hermetic tradition was not, and this is crucial to re-establishing memory's importance to writing.

By way of preparing for my subsequent chapters that recast rhetorical memory's role in discourse, particularly among the appeals and the canons, I want to emphasize an important limitation of metaphors of memory as a "storehouse" or "treasure-house." Despite the complexities of Aristotelian and Platonic memory, their and later thinkers' limiting metaphors for memory have been more influential on modern rhetoric and composition studies. For example, for Cicero, memory is "that repository for all things" (10); in the *Rhetorica Ad Herennium*, memory is "the treasure-house of the ideas supplied by Invention" (205); and for Augustine, memory is "the great storehouse... [in which] everything is preserved separately, according to its category" (214). These thinkers and many who came later accepted, as per the *Rhetorica Ad Herennium*, the notion that there was a separate "natural" memory that stored impressions and an "artificial" memory that could be mastered to access and arrange material stored in the natural memory (207). Certainly there is a difference between the involuntary, unconscious remembering of our experiences and deliberate acts of memory, but to make such a strict division implies independence of the two memories from each other, and a dominance of artificial

memory as a tool for retrieval from a static “filing cabinet,” to invoke a metaphor Yates uses frequently. The repository as the metaphorical location of invention, of the *topoi*, conceives memory as the amount of information a writer can access. This is an inaccurate characterization, because memory does not “retrieve” information, but rather reconstructs past experience within a new, i.e. present, context. The characterization, further, leaves out the world as a conditioning agent on memory, as well as memory’s own recursive role in our devising intentions for action within the world.

This briefly sketched history highlights some ways in which memory disappeared from what became modern rhetoric and composition studies. Yet, so far we can also see that, disagreements about metaphysics aside, from Plato and Aristotle to the Romans, from the Scholastics to the humanists and Hermetics, rhetorical memory has several important characteristics. It is:

- *Active, not static*: the Roman metaphor of “storehouse” carries today an inaccurate connotation of rendering memory an inert state, a connotation the Romans themselves did not necessarily have. Memory is rather an associative activity.
- *Associative*: we remember things in relation to other things.
- *Subjective*: individuals remember based on their own idiosyncrasies, experiences, and associations, and memory is strongest when it has an emotional resonance.
- *Investigative, Deliberative, and Methodical*: we use memory to invent, identify, classify, and predict. We develop habits and methods to accomplish these tasks,

and have subjective agency over our methods. (However, as I will discuss in subsequent chapters, habits can be hard to change.)

- *Situated/Situating*: we use memory to make judgments based on our interpretations of constantly unfolding events. Memory is located in the world.

These five aspects of memory are nowhere to be found in Corbett, and to be sure they are found in few who come after. They are, however, important aspects of rhetorical memory that, in the following chapters, I argue we should reclaim and rethink.

CHAPTER III

SYNAPTIC MAPPING AND CAUSAL LANGUAGE

How can an open society protect itself against dangerously deceptive arguments? Only by [members of that society] recognizing their experience and their power to influence reality by influencing people's perceptions. People's thinking is part of the reality they need to understand, and that makes the understanding of reality much harder than the philosophers of the Enlightenment imagined. They envisioned reason as something apart from reality, acting as a searchlight illuminating it. ... It is not enough to manipulate perceptions; it is important to understand how the world really works.
--George Soros

Alexander Bain, reveals Andrea Lunsford, wrote repeatedly about the plasticity of brains. She points to his 1897 work, *Education as a Science*, in which he draws several maxims for education based on what she calls his "proto developmental theory of the mind" (Lunsford 223). First, Bain thought that teachers should always craft activities that interest students, so that their natural enthusiasm will lead them deeper into the learning; second, that they should teach not only the history of the English language, but also its contemporary forms, so that it will be practical and useful; and third, that they should always start from what the students already know, so that they can extend their understanding rather than just memorize facts (223-24). All the more a shame, then, that Bain's main legacy is that damned textbook. Not only does Lunsford's Bain sound like someone who would be quite happy to discuss education reform with John Dewey, he

also has ideas about memory remarkably similar to those of the classical rhetoricians. For example, one of the earliest fragments we have on memory, the *Dialexis*, written approximately in 400 BCE, offers the following advice for learning:

This is the first thing: if you pay attention (direct your mind), the judgment will better perceive the things going through it (the mind).
Secondly, repeat again what you hear; for by often hearing and saying the same things, what you have learned comes complete into your memory.
Thirdly, what you hear, place on what you know... (qtd. in Yates 29-30)

Paying attention comes easier when one is interested in the subject; when we repeat what we learn in our own words, we remember it better; and when we connect what we learn to what we already know, we understand it more clearly (though not necessarily correctly). The plasticity of the brain, in other words, is precisely what enables our memories to work.²⁹

I concluded in the previous chapter that memory, from classical to Renaissance rhetoric at least, was active, associative, subjective, investigative, deliberative, methodical, and situated/situating. Memorizing, to say the least, was a small fraction of rhetorical memory's uses. In this chapter, I argue that neurological memory, specifically neuroplasticity (something Bain seems to have been on to, as were the older rhetoricians) and the operations of synapses, confirm many classical conceptions of how memory works. Next, I distinguish between the brain as a functioning, interactive organ, and the mind as a functioning, interacting self. This distinction is important to avoid reducing the complex ecology of the mind merely to brain functions, and to understand both the role of social interaction in discourse and the capacity for rhetoric to condition choices we

make, or in other words, to persuade. Finally, I suggest that synaptic mapping, my term for the neurological formation and conscious or unconscious alteration of memories, supports a causal theory of language, which offers us useful ways of thinking about how we learn and, more importantly, how we change our minds.

Synapses and Synaptic Mapping

Metaphors of the brain tend to reflect the most advanced technology of the time, from a filing cabinet to a steam engine to a computer.³⁰ None of these metaphors are accurate, and all imply independent isolation of the brain from the rest of the body. Nothing could be further from the truth; the brain is, as Michael O'Shea puts it, "part of an extended system reaching out to permeate, influence, and be influenced by, every corner and extremity of your body" (2-3). Unlike other organs, which are tightly enclosed in our bodies and insulated from outside stimuli, the brain is an ecosystem of neurons and nerve endings reaching out to the world around us, and our sensory apparatuses pipe information directly into it at all times. The brain therefore is not just a command center, but also a hub of interacting data from which we formulate interpretations that we apply as choices for action. All of this activity is memory, the associative connection of all the interacting data identified—realized—as concepts. I mean "concept" here and throughout in terms of Charles Sanders Peirce's "third grade of clearness of apprehension:"

"Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (36). So, concepts can be as simple and direct as "what does a slug look like"³¹ or as complex and ambiguous as "the meaning of life," in terms of the

effects they have on our perceived experience. Our identification and realization of concepts constantly changes, of course, and these changes are physically manifested in our brains.

The physical functioning of memory starts with cells called neurons, which are more diverse in their structure and appearance than any other type of cell.³² They are designed to move information; the cell body and dendrites—shorter structures at one end of the neuron—receive input, and the longer extension of the cells, called axons, control output (Kandel, et al. 71). The cell body holds the cytoplasm and nucleus of the neuron, and axons are output fibers that communicate via electrical and chemical impulses. They end in nerve terminals. Dendrites extend outward from the cell body to receive messages transmitted by axons. The message exchange works both electrically and chemically. Electrical connections transmit between cells instantaneously, and chemical connections amplify transmitted signals (Kandel, et al. 177-87). When a neuron is active, short pulses called action potentials move along neuronal axons toward their terminals.³³ Once there, they trigger chemical transmitters that can excite or inhibit action potentials in other neurons. The alternation of electrical and chemical signaling distributes information among and between neurons. The gap between neurons where the electrical and chemical signals release is called a synapse, and many synapses bind together as neurons activate together. The neurophysiologist Donald Hebb discovered that when neurons that are not currently synaptic to one another are active at the same time, they will form a synaptic connection. In what became known as Hebb's Axiom,³⁴ neurons that fire together, wire together. Synapses hold neurons together in complicated, overlapping groupings.

The current metaphors used by many science writers are, as one would expect, derived from computers: circuits for individual connections and networks for larger groups. While the brain might be like a computer in some ways, it is not an accurate analogy as is, say, a heart is to a pump (O'Shea 103). I suggest "map" is a much more useful metaphor, not to mention one less vulnerable to technological changes. Different types of cognitive functions are usually but not always localized in different parts of the brain, and neurons connect to one another across different brain regions, so synaptic maps can reach across wide expanses. "Map" is a more accurate descriptor than "network." Synaptic connections are messy, connecting so many neurons across so many areas that they resemble a relief map more than a computer network. Moreover, as I will describe later, when we think, we have the ability to make deliberate connections, or "map out" concepts, and when we re-think something, "change our minds," we make new connections on top of the old, which remain. We get a sort of topography, through which we can sift various strata of thought that developed into our current perspectives. It is a different process of connection than one suggested by "networking," for reasons I think made clear by how synapses are formed.

Uniquely among cells, neurons communicate directly with one another, either through direct contact (an electrical synapse) or very close apposition (a chemical synapse). No differently than other cells, the neuron's cell body stores genetic material and produces proteins that maintain cell health. A neuron's singular feature is its nerve fibers, which extend out from the neuron's body to connect with other cells. Axons carry information to other cells, and dendrites receive that information. Synapses are the points

of communication between cells; the etymology is from the Greek, “to connect.”³⁵ The electrical pulses that emanate from the axon terminal activate chemicals called neurotransmitters, which float across the synaptic space to connect with another neuron, triggering the next electrical charge. Groups of neurons linked by synapses connect to other groups to form systems that manage some specific function, like collecting sense information or reacting to stimuli. Neurons come in two varieties, projection neurons and interneurons. Projection neurons have extra-long axons and primarily function to activate the next projection cell in building a synaptic map. Interneurons send pulses through shorter axons to nearby neurons of both varieties to help process information within the developing map of connections. Interneurons mediate between sensory stimulus and motor response, and allow for a gap between the two, which enables thinking and decisionmaking before an action (O’Shea 46). Companion cells called glials produce myelin, a wrapping that insulates axons. Glials alter neuronal interactions by responding to voltage changes and chemical signals, thereby directing information traffic in the brain.

Neurons also release chemicals that act on the nervous system to modulate mood, for example the opiates, endorphins and enkephalins, chemicals that are now part of common vernacular to refer to the feelings we get when we exercise or feel sad. In all of our declarative memories, synaptic maps include connections to these neurotransmitters that release chemicals impacting our emotional state. When we remember, the emotional association is inextricable from the factual (LeDoux, *Synaptic Self* 37-49). Traditional views distinguishing between cognition and emotion in the brain have long been

discarded.³⁶ While we may think metaphorically about cold logic and hot emotion, in truth we are most often in various states of lukewarmth, and what we perceive as logical is conditioned by our emotional states, and vice versa. Cognition and emotion are interdependent and inseparable, and ensure that memories are subject to an individual's interpreted experiences.

Neurons and their synaptic bonds are not isolated in a single area of the brain, but distributed across its entirety. There is a triunal division identified as the forebrain, midbrain, and hindbrain, and there is a hierarchy of control from forebrain to hindbrain. The forebrain, made up primarily of the cerebral cortex, interprets sensory information, and lights up Functional Magnetic Resonance Imaging (fMRI) scans when we make decisions. The cortex enables interpretation of sensory stimuli by constructing spatial representations of the sensory world input by sense organs (O'Shea 59). It is also the region that distinguishes humans, for these complicated spatial representations enable us to make predictions and about the world and plan for the future (O'Shea 61).

The midbrain consists of regions that allow us to make voluntary movements, and it also administers the hindbrain, which is primarily made up of the brainstem. The section between the mid- and hindbrain, the hypothalamus, manages appetites and emotions, and makes up, along with the amygdala and the hypothalamus in the forebrain, the limbic system, which is most commonly associated with memory and emotion. The amygdala primarily processes emotions such as fear, and helps consolidate long-term memories.

The hippocampus, a structure buried underneath the cerebral cortex, serves as the field upon which declarative memories—the memories of our lived experience narrated by our interpretations of them—form. The hippocampus processes or mediates declarative memory and other parts of the brain mediate nondeclarative or procedural memory.³⁷ Yet, as time goes on, the hippocampus's role changes, and in fact decreases. Memories diffuse throughout brain systems. The hippocampus likely directs through synaptic changes this diffusion throughout the cortical systems of the brain, what we might call “storage” (LeDoux, *Synaptic Self* 106-107).

Memories are spatially reconstructed. Two competing theories account for how memories can be recalled outside of their original contexts and through new stimuli. Memories are relational, that is, activation of a memory leads to the activation of other memories; or, memories are blended, unified by the hippocampus into conjunctive wholes. The relational theory leaves individual memories as discrete (LeDoux, *Synaptic Self* 115). Whether one of these theories or the other, or a combination, is correct, the takeaway is that synapses map memories together in associative bonds.

Other kinds of memory operate in different areas. Working memory, activated primarily in the pre-frontal cortex, is our very short-term memory of things happening in the now, and it allows us to read, follow a conversation, and generally get through the day. Working memory is essentially “a low capacity information reservoir that is always full, sensations flowing into it continuously at about the same rate that they are forgotten” (O'Shea 85). Most of this short-term memory is quickly forgotten, but other memories are selected for long-term consolidation via different processes. This selection can be

conscious or unconscious. An example of the latter is “flash bulb memory,” in which a powerful emotional association is a trigger for declarative memories and a wide range of associations.

Episodic or semantic memory refers to facts, true or false, which we use in forming declarative memories. For example, Genghis Khan was a Mongol, my name is Will, and pilots fly planes are all semantic memories. Semantic memories have some connection across the hippocampal region, but like declarative memories seem to be distributed across the brain, through the connected parahippocampal cortices and in various sensory areas. For example, remembered facts about planes might include the sound of a takeoff, the smell of a tarmac, the dull lighting of Atlanta’s airport. These facts when recalled light up the auditory, olfactory, and visual regions of the cortex. Semantic memories are grouped as modules that connect to each other, for instance by category. These categorizations in memory orient the brain’s perceptions as “educated guesses about what the combined senses are telling it” and depend therefore on interactions among different modalities (O’Shea 64). Neuronal information sharing, fundamentally, is the memorialization of sense experience, in that incoming stimuli are connected to previously experienced impressions of stimuli categorized together. These connections allow us to adapt to situational contexts by recognizing stimuli as something like or similar to something else we’ve encountered before. Thus, memory is future-oriented, a constant unfolding of, to paraphrase Deleuze, repetition of difference.

The famous 1950s case of HM, an amnesic, revealed that damage to the hippocampus disables peoples’ abilities to form new memories or learn complex

concepts.³⁸ At first, scientists thought this discovery contradicted the notion that memory is distributed throughout the brain. However, it turned out that the hippocampus does not store memories but rather mediates their formation. The hippocampus acts as a connecting field, mapping connections among vast collections of neurons. The unfortunate case of HM showed that amnesics have lost their abilities to make connections, which is what memories really are. Research into Alzheimer's patients reveals a similar inability to make synaptic connections in the hippocampus, but also that some memory impairment seems to be linked to damage or deterioration in the upper regions of the frontal and parietal cortices. These findings underscore the fact that memory is distributed across the brain and not systematic.

Synaptic connections are complicated. There is no one-to-one neuronal association, no hierarchical organization of neuronal bonds that serially or systematically process information. In fact, the average neuron outputs and inputs many thousands of synaptic connections (Kandel, et al. 177). Most scientists now believe that perceptions are dispersed over a wide range of neuronal populations that must be activated simultaneously, which means that "the activity of any individual neuron is not explicitly representative of a particular object (O'Shea 75-76).³⁹ Advanced fMRI scans show that many, many neurons in many, many locations fire together when we think of a single concept. It is not single neurons firing that triggers other firings, but rather an instantaneous activation of associated neurons, and further associations are made the longer we think about the concept.

Our brains remember in terms of associative connections rather than via some sort of video recall (in a previous technological paradigm, we would say “photographic”), which would be crippling to us because it would not enable us to link events and make judgments. Associative connections, on the other hand, allow us to understand cause and effect and other relationships involved in predicting the future and making sense of the past. New associations form, old associations may even disappear, only to return later. Every time we think of something, the associative nature of synaptic mapping aligns our memories depending on what has our attention.

Attention—defined as selective concentration on a part of the environment while ignoring other parts—is of prime importance. Eric Kandel’s decades-long studies of giant sea slugs⁴⁰ demonstrate how memories are formed, and that through repetition of stimuli, we become alternately habituated (learn to ignore stimuli) or sensitized (learn to pay special attention to stimuli), sometimes of the same *kind* of stimuli. A non-slug related illustrative example is driving a car. Once we get used to driving, we scarcely notice the other cars on the road, unless they do something unexpected like cut us off, i.e. provide a different kind of stimulus. Kandel demonstrated that modulatory neurons “strengthened pre-existing synapses between the sensory neurons and the motor neurons” (O’Shea 95). Kandel showed further that through instrumental and operant conditioning, memories are reinforced as expectations in future situations. Instrumental conditioning associates a stimulus with a response, and operant conditioning associates a particular response to a stimulus with another response (LeDoux, *Synaptic Self* 118). This associative process is how we categorize events as belonging to genres or schemas, sets of expectations we

have once we recognize a given situation. So if I see a menu covered in pictures of hamburgers and french fries, and some people at a register taking money in exchange for food on a tray, my expectations about “fast food restaurant” activate, and I make predictions and choose actions accordingly. Anything that seems “out of place,” an analogy that is actually literal when one considers the spatial mapping of memories, catches my attention, and I can reflect on the situation and choose new courses of action. It is a matter of environment conditioning what we pay attention to and how. Attention, clearly, is key to perception and therefore interpretation, and as I will point out in Chapter Three, to ethos as well.

At all times our brains change, both in response to our environment and to our choices. In her review of Kandel’s work, Sue Halpern summarizes the physicality of memory in the brain:

The brain is dynamic and plastic, changing in response to whatever comes its way. This is not a metaphor. Encounter something once and it is foreign to you. Encounter it many times and it is familiar. The thing itself hasn’t changed; your brain has. Experience has laid down new neural pathways. They are biochemical and electrical. They are real. (17)

The world changes us; we change the world. Our experiences and our habits of inquiry literally change us, or more accurately, we change ourselves in terms of how we interpret our experiences. Memory, Kandel writes, results “from changes in synaptic strength brought about by certain patterns of sensory stimulation” (*In Search of Memory* 158). Stimulation refers to our decisions, deliberations, and social conditions. Memory, furthermore, relies not “on the properties of the nerve cell [i.e. neurons as data

repositories] but on the nature of the connections between neurons and how they process the sensory information they receive” (158). Again, the hippocampus—the region in which these connections form—does not *store* memories like a database or filing cabinet. Rather, it facilitates neurons bridging gaps with other cells. The electrical and chemical charges of the synapses, which “jump” the gaps between neurons, form memories, and the stronger the charge of the synapse, the stronger the memory. In layperson’s terms, the more one thinks about something, the easier it is to remember, and this synaptic charge is part of how we memorize, but also how we associate emotions or concepts with a memory. A poodle bit me when I was a child, and I now associate poodles with fear, rage, and a phantom pain in my ankle. The more we think about a particular thing, the more often the synapse “jumps” the gap among neurons, and so the connections get stronger and stronger, easier to make, because the grooves between the gaps get deeper. The more we think about something, the more we continue to think about it. The metaphor of “being in the groove” is actually quite literal: we think about something so much in the context of achieving some goal that we quickly make new connections and contexts. The original idea for this dissertation, for example, got me into a groove in which I quickly made connections between neuroscientific studies and Platonic dialogues that I had read years before, which then developed further into connections that led to the present work. On the other hand, so is “stuck in a rut,” when we think about something in the same way so much that it’s difficult to re-contextualize it. In the case of poodles, it took a long time for me to be willing to re-contextualize those memories and tolerate the sight of the damnable creatures.

Memories are synaptic maps, unique and socially conditioned associative links of synapses around individual and linked concepts. Most important to rhetorical memory, this biological fact grants us the agency to generate, associate, and revise concepts and rhetorical positions. We make choices in the emerging present conditioned by the experienced past, both interpreted and uninterpreted, conditioned by conscious and unconscious assumptions and beliefs. We *make* meaning through interaction in our environment, discoursing about the emerging present and possible future through categorization and recategorization of memories. In rhetorical terms, we narrate experience as memory.⁴¹ Memory, really, is composition—it is a narrative rhetorical interpretation, improvised, reflected upon, and revised, by an individual within a certain socially conditioning context. For example, my memories of where I was on 9/11 include the narrative of where I was and what I was doing, conditioned by the fact that I am an American, whatever that might mean to me. Every time I recall the memory as time passes, the narrative itself might not be revised, but the meanings I interpret and contexts within which I arrange it do. This is a physical process. Our brains change shape as we make new, strengthen old, or revise existing synaptic connections.

We should understand synaptic activity in rhetorical terms as the operation by which we develop our interpretations of concepts. Synapses form a map of neurons, and so sensory data (the thing we call a dog has four legs, hair, and barks) and interpreted memories (I love dogs, but I don't like poodles due to my childhood memories of poodles versus other kinds of dogs) form the beliefs we have about that concept. The synaptic map of dog is conditioned by environment and our individual decisions, and also

conditioned by connections with other concepts, which conditions how we choose to discourse about dogs.

To summarize neurological memory, then, it is active, associative, subjective, investigative, deliberative, methodical, and situated/situating. This sounds familiar. Synaptic bonds create maps of concepts and link to maps of other concepts, making exponentially larger maps. A classical way of applying this phenomenon to discourse could be the memory palace, which is an imaginative spatial arrangement of parts of a prepared speech, including mnemonic triggers to enable improvisation. It's a complicated idea in rhetoric, but less so when one thinks about how synapses work to map neuronal data across space. But while synapses are the functional operations of memory in the brain, they are not the self who remembers, but rather the toolkit by which the self remembers interactively in its environment.

Brain, Mind, and Interaction

None of this thinking about synaptic mapping is to suggest that we are merely our brains. Donald Davidson, in "The Emergence of Thought," argues "it is the social sharing of reactions that makes the objectivity of the content [of a gesture] available" (*Subjective, Intersubjective, Objective* 116). Synapses firing among neurons, in other words, is insufficient to meaning and discourse. Scientists like LeDoux agree; he argues that understanding the functioning of synapses helps us understand not what we are, but the way we are what we are (*Synaptic Self* 3).

It is important to address distinctions of brain as organ and mind as action in order to clarify exactly what I'm talking about when I describe the brain's synaptic activity.

The mind is, to put a complex concept into simple terms, the conscious self. Synaptic connections occur both unconsciously and consciously, which means synaptic maps condition our minds and also that our minds condition our synaptic maps. Synaptic maps condition how we think, and how we think changes our synaptic maps. Moreover, the way we understand “mind” is crucial to how we understand language as causal rather than representative, as I will argue in the next section.⁴² The brain is the organ that enables perception, interpretation, memory, communication, and ultimately consciousness, all of which constitute the psychological lived experience we call our minds.⁴³ The brain is not the mind, but it enables the mind, though it does not and cannot do so in isolation. Taking this position puts me at odds with some neuroscientists who argue that the brain can in fact explain the mind, but aligns me with several more. I think a perspective on discourse as causal supports the position that mind is a product of interaction with the environment, rather than a product of purely neurological operations.

Alva Nöe argues in *Out of Our Heads* (2009) that consciousness is both in and outside of our bodies, that it is an action more like a dance than digestion, requiring the concerted operation of the brain, the body, and the world. The mind, therefore, is embodied, but not just in our own body. Nöe argues that meaning, for example, is not intrinsic to language or anything else, but relational to a context: “We are not merely recipients of external influences, but are creatures built to receive influences that we ourselves enact; we are dynamically coupled with the world, not separate from it” (181). To him, “mind” is not reducible to the brain but must take into account the entirety of that concerted operation. Some neuroscientists disagree, notably Antonio Damasio. In *Self*

Comes to Mind (2010), Damasio attempts to explain how the brain alone creates the mind, that is to say, he attempts an argument for how the brain's physical processes create consciousness. He writes, "Minds emerge when the activity of small [neuronal circuits] is organized across large networks so as to compose momentary patterns. The patterns represent things and events located outside the brain" (18).⁴⁴ To state Damasio's argument as simply as possible, the mind is the unconscious map of these total patterns, and the mind subsequently creates a self, the subjective "knower" of its own mind.

This larger argument, while interesting, is not important here. What *is* important is the process of mapping (a term he uses a little differently than I, see Notes), the specifics of how we unconsciously and consciously *do* this mapping, and what this mapping has to do with how we remember. Moving us closer to that goal, John Searle questions Damasio's argument, and presents a convincing retort:

[Damasio] says the brain creates the mind by making maps. On the standard understanding of the causal relations between brain and mind, that is not true. The brain creates the mind by making thoughts, feelings, perceptions, pains, memories, sensations, and all the rest of it, both conscious and unconscious. The creation of neurobiological patterns is an essential part of this process, but he gives no reason to suppose that the map, qua map, has any psychological reality at all. When he tells us that the mind consists largely of unconscious maps, one has to ask: What fact about these maps makes them mental? When we read words like "image," "perception," and "feeling" in his account of maps, we tend naturally to connect them with the conscious formation of images and the experience of perceptions and feelings. But that is not what he means when he talks about the mapping activity of the brain. The problem, to put it in a nutshell, is that he has given us no reason to suppose that these maps have any mental or psychological reality at all. (52)

Searle's point is that Damasio looks at the physical operations of the brain and attempts to make a leap into the psychology of individual consciousness. Damasio's mistake is

that he assumes the operations of the brain are sufficient in and of themselves to give rise to individual consciousness. But there is no reason to believe Damasio because he makes no convincing account of conscious thought, only of unconscious physiological operations.

There is more to consciousness than the operations of the brain, something many neuroscientists and cognitive psychologists have recognized, theorizing consciousness as “distributed cognition,” which involves a synthesis of perspectives from developmental psychology, cognitive anthropology, dynamical systems theory, robotics, and neuropsychology (Sutton 291). John Sutton describes it thusly:

The mind, on the distributed cognition perspective, is not only embodied (in brain and body) and embedded (in a natural and social world), but is also *extended* beyond the boundaries of skull and skin. Much of our cognitive life depends on our abilities to construct and exploit what [Andy] Clark calls ‘designer environments.’ For present purposes we characteristically form temporarily coupled systems, both with other agents and with non-biological resources: what’s striking about human brains is that they ‘make the world smart so that we can be dumb in peace.’ (291)

Distributed cognition holds that the mind arises interactively, and as I’ll discuss later in this chapter and in Chapter Four, this perspective makes a great deal of sense in light of George Herbert Mead’s understanding of perspective, Donald Davidson’s understanding of language, and Stephen R. Yarbrough’s understanding of ethos. Our brains (specifically our memories) enable us to change our environments in such ways as we desire, thus allowing us to “be dumb in peace,” an idea similar to Yarbrough’s “Principle of the Conservation of Meaning” which I’ll discuss in Chapter Four. The brain creates memories by making synaptic maps, but not the mind. The brain enables the mind by

neurological synaptic connections that we call memories, thoughts, feelings, and so on. Psychological reality arises through interaction with the environment and other minds. As philosopher A.C Grayling has observed, “while each of us has his own brain, the mind that each of us has is the product of more than that brain; it is in important part the result of the social interaction with other brains. As essentially social animals, humans are nodes in complex networks from which their mental lives derive most of their content. A single mind is, accordingly, the result of interaction between many brains” (par. 9). In contrast to Damasio, a distributed cognition perspective thinks of the brain not as an isolated seat of the mind, but as a social organ whose function is to coordinate sensory input with memories that allow us to direct our interpretations and actions.

Mead, in “The Objective Reality of Perspectives,” says that when an organism performs an action, it cuts nature into various intersecting perspectives that constitute its (nature’s and the organism’s) development (308). The significance of the action, if it is significant, comes after, when the perspectives are organized and interpreted. “Mind” is the “organization of perspectives in nature and at least a phase in the creative advance of nature” (316). We have to think then of memory as an action that involves a reconstruction of previously emergent perspectives from the standpoint of emerging perspectives.

Clarifying memory’s role in conceiving the mind, Jeffrey K. Olick has argued that whereas individualist conceptions of memory emphasize neurological and psychological aspects but ignore technologies and social processes outside of the brain, collectivist conceptions emphasize the social as well as personal memory but neglect the way those

interactions are constituted by neurological and psychological operations. He calls for a “multidimensional” theory to bridge the two, and suggests that we “use collective memory as a sensitizing term for a wide variety of mnemonic processes, practices, and outcomes, neurological, cognitive, personal, aggregated, and collective” (346). Such a multidimensional theory is ecological, that is, interactionist.

There is, at most, one world, reminds Davidson. Mario Bunge has argued that “Not ideas in themselves but ideating brains are in the real world. We only feign that there are ideas in themselves, in order to examine their form and content regardless of the circumstances of our thinking them” (514). An immaterial mind leads to metaphysics, and a conception of mind as an aggregate of brain functions cannot account for qualitative consciousness. Bunge rejects mind-body dualism in favor of exploring theories that conceive of the mind as emerging in part from brain functions, but not claiming neuroscience is sufficient to explain the mind (522). We can apply interactionism profitably in line with a distributed cognition point of view by recognizing that brain functions enable the mind, and that the mind arises and operates in interdependent interaction with other minds. We cannot with any confidence go any further, but we can draw applications to rhetoric, the primary means by which minds interact with one another.

Finally, if we think of the mind as something produced through interaction, and accept that thought and language arise interdependently, we should also think of language as being produced through interaction. The mind, the self, thought, language, these are all interactive, enabled by the organ we call the brain. I cannot adequately explain the mind

here, nor could I if I had an entire book to do so. What I do suggest is that rhetoric and composition theorists think of the mind as these scientists, philosophers, and psychologists do, in terms of distributed cognition. Our minds are the result of interaction, and language, as I will discuss below, is the organ of perception. Thus, the importance of rhetoric, which does in fact affect our perceptions. But this would not be possible if we were locked in our own heads via an internal, mediating language system that strives for mimesis rather than a social negotiation about what reality probably is. We need a perspective that offers us a way to account for rhetorical power without resorting to social constructionism, a way to account for communicative competence without resorting to grammar, and a way to account for differing perceptions of reality without resorting to multi-worldness.

One recurrent concept in this chapter has been choice. We choose what we think about, conditioned by what we have encountered and thought about, and we can change how we think about what we think about. As I will discuss in the next chapter, this is the neurological basis for ethos. Before I can focus on ethos as a rhetorical concept, however, I need to consider language itself, and align this work with a working theory of discourse. The applications of rhetorical memory to ethos in light of synaptic mapping assume individual agency among discoursing interlocutors. Not all theories of language allow for agency, so I need here to outline one that does, one supported if not definitively proven by synaptic mapping.

Language and Synaptic Plasticity

O'Shea summarizes synaptic plasticity in terms of responsiveness to environmental changes. He writes, "Synaptic change or plasticity is fundamental to learning and memory formation. The chemical synapse has built-in molecular machinery whose only function is to alter the strength of that synapse. ... the synapse is a highly responsive, dynamic, and active participant in the essential process of responding to the changing environment" (98). Furthermore, this process is universal. The nature/nurture divide is an illusion: "built in to the very structure of the genome are molecular mechanisms that allow experiences to change the pattern of gene expression in the brain. ... [W]ithin the very nature of the brain is the machinery that allows it to respond adaptively to nurture" (98). Experience here must include not just passive conditioning by environment, but the choices we make in dynamic interaction with our environment, because those choices create further changes in our environment that spur us to make more choices. We are genetically geared toward free will: our nature is to be receptive to nurture. Our constant choice-making, utilizing our memories to make predictions and plans, is our way of affecting and being affected by our environment. Human beings have the capability, in many ways, to direct their own evolution. We can change our environments by learning about and imagining different environments, and those new environments condition us to imagine new perspectives. This is what scientists call neuroplasticity (Gopnik, *Philosophical Baby* 7-8).

In Chapter Five, I argue that rhetorical memory is a method of ethical grounding, conducted via reflection and research, by which we determine and anticipate

relevant values and expectations on a given subject at a given time in a given place with given interlocutors. This conception of rhetorical memory as ethical grounding assumes free will and choice, which is to say, some form of agency, among interlocutors. The operations of neurological memory suggest freedom of choice and agency as well. However, the history of critical theory is fraught with conceptions of language that render agency impossible. Social constructionists and biological determinists alike argue free will is an illusion, that we are constructed by language (the former) or genetics (the latter). Both camps are incorrect, because, as Walter J. Freeman puts it, both assume at the outset that we do not make our own contributions to our decisionmaking, and are therefore “reminiscent of the theological doctrines of the predestinarians” (2). Joseph LeDoux offers a more conciliatory perspective. He argues that considerations of nature and nurture “speak the same language...both ultimately achieve their mental and behavioral effects by shaping the synaptic organization of the brain” (*Synaptic Self* 3). These internal and external conditioners influence our ethical predilections, but our choices actually shape and change them.

Further, the determinists and constructionists misunderstand how language works, and possibly what language *is*. Biological determinists attempt to create a single unifying theory of “consciousness” based on isolated brain functions and ignore the ecosystemic relationships among various parts of the brain conditioned by interaction in environments. Social constructionists theorize that language “writes” us, and, as Kenneth Bruffee describes it, “entities we normally call reality, knowledge, thought, facts, texts, selves, and so on as community-generated and community-maintained linguistic

entities—or, more broadly speaking, symbolic entities—that define or ‘constitute’ the communities that generate them” (774). Such perspectives often ignore the agency of individuals within communities. If the constructionists and determinists are correct, then their theories should take each other into account. That is, discourse theory and neuroscience should confirm one another. The fact is, however, they do not, partly because they rely on representational theories of language, which constrain choice and free will by isolating individuals both against one another and within an endless chain of signifiers. The basic neuroscience of memory, in my view, supports quite another conception of language, one in which interlocutors are free agents in the world, working cooperatively to indicate their intentions via sounds, marks, and gestures. Our memories allow us to systematically employ these sounds, marks, and gestures such that they become communal habits, habits that constantly change and evolve.

Some rhetorical theorists are beginning to understand how neuroscience opens possibilities for theories of agency. Marilyn M. Cooper argues that we must do away with constrictive notions of ourselves as “subjects” constituted and constructed by language.⁴⁵ Rather, we should develop rhetorical theories of ourselves as responsible agents who use language with others to create the world in which we live. In many ways, her argument correlates with Stephen R. Yarbrough’s conception of language as causal. Yarbrough extends the work of George Herbert Mead and Donald Davidson, and eliminates the agonistic dialectics of rhetoric and representative language theory. Representational language posits itself as a metaphysical system, a closed structure that we acquire. It condemns us to imperfect attempts at mimesis and constant conflict over whose language

is closest to “the real” and whose is merely manipulative. According to those theories, as Yarbrough describes them, “meaning” must exist as the relation of an utterance or action “to some learnable, abstract structure or system that exists prior to the utterance itself” (*After Rhetoric* 6). Causal language, on the other hand, locates meaning not in the past but in the future. For Yarbrough, this theory of language is self-evident when we consider how we actually *use* language—or, his preferred term, discourse—not just to get around in the world but also to actively alter it.

The commonplace that we create not out of void but of chaos has a Heraclitean origin: analysis imposes an order that was not there before. Once that order is imposed, it can be preserved, standardized, and passed down. These ordered analyses of sound, mark, and gesture are really all that languages are. Discourse is simply a theory of cause-and-effect, a theory that generally finds more success when it considers these ordered analyses. Language is not a metaphysical system of representation, in which we use language to try to somehow “reflect” or “represent” true reality. Languages are socially conditioned habits of discourse communities; habits which can be through writing codified and taught as systems, but which constantly change with evolving use.

Yarbrough summarizes his view as discursive interactionism:

...the meaning of an intentional event, such as an utterance, is the product neither of its coherence with an already existent linguistic or cultural system of conventions, nor of its correspondence to an already existent set of ‘real’ things, nor of its mere effects on its perceivers. Rather, the meaning of an intentional event is the relation between the effects the agent expects the event to produce and the effects it actually does produce, so that meaning *continually emerges* as the agents interact. From this perspective...there is simply no such thing as *la langue*, or “language,” in the sense we have come to accept as normative during the last century; that is, there is no *a priori*, abstract entity, no structured,

synchronic ‘system’ of rules and conventions we need to know in advance to make our *parole*, our concrete utterances, intelligible. (*On “Getting It”* 2)

The noises, gestures, and marks we typically call speech and writing do not “re-present the world to us” but are rather tools we use to interact with our environments, specifically tools we use to indicate our interests and concerns about the world to others. Language is not an inborn system that we acquire, but a social, recursive process in which “we use [noises, gestures, marks] in anticipation of how others will interpret our purposes for so using them” (2). We can learn how members of our immediate community have negotiated habitual usages of noises, gestures, and marks, and we can analyze that systematically as a language or a dialect or a cant or whatever.

For Davidson, language is not a constraining external representational system, but theories we constantly revise, abandon, reclaim, alter, and generate in order to communicate with each other using sounds, gestures, and marks. These sounds, gestures, and marks become through repeated usage habitual for groups of people who live in a shared environment. The physical process by which our minds conduct this theorization is synaptic mapping. We make, experiment with, and revise associative connections. This exploration of language theory builds toward my characterization of rhetorical memory as a method of ethical grounding by considering the decision-making of interlocutors in sociocultural contexts. Our communicative habits, in other words, condition our perspectives on communication.

Representational Language

At least since Plato philosophers and literary critics have taken as a given that language is representational, neutral in relation to reality, that it seeks verisimilitude via a mimetic recreation of the “real.” The modern age marked a shift from mimesis to linguistics, which really amounts to the same thing: language as a metaphysical structure. Saussure suggested that a sign—a linguistic marker—was an inseparable bonding, like the two sides of a sheet of paper, of a signifier (the word) and a signified (the concept of the thing represented by the word). Signs operated within a closed but infinite system of differentiation. Signs are arbitrarily but inescapably constructed of signifiers/signifieds and interrelated by the differentiation of these signifiers/signifieds.⁴⁶ Saussure’s theories closed ontological and epistemological pursuits to a large degree in favor of the linguistic: how exactly are individual languages structured, and what sorts of consequences arise from the existence of vast numbers of closed linguistic systems? Notions of free will gave way to notions of socially constructed selves. Lacanian structuralists for example argued that language speaks subjects *a priori*, and therefore language is always already an Othering system. The individual is indoctrinated and trapped within binding ideological structures determined by the language he or she learned.

Structuralism has a fundamental fault, which Jacques Derrida pointed out via the process he called deconstruction. A linguistic structure has no center, because its system of signs is distinguished only by its differentiation. If this is so, meaning—the relationship of signifier/signified—is completely unstable and potentially indeterminable

because signs differentiate from signs that differentiate from signs...*ad infinitum*. The endless chain of signification renders signs insignificant. Derrida offered no alternative interpretive theory in place of structuralism, either because he was content as an *enfant terrible* or because he could think of no way out. By accepting language as representational, he became mired in a post-structural bind.

In linguistics, Noam Chomsky's notion that there is a universal grammar in the coding of the human genome helped overturn behaviorist notions of learning as a uniform process that worked the same no matter what was being learned, by whom, when. Chomsky, contrary to uniform processes, assumed language to be unique to human beings and then theorized a universal grammar, which posited innate psychological capacities that develop in individuals. According to Chomsky, we have an innate faculty for language, which includes universal grammar and phonetics, and exposure to a specific language causes our brains to select that language to "learn" (Kandel, et al. 1355). Platonic anamnesis is a belief in innate knowledge, not in spirit, as it were, different than Chomsky's linguistics. Chomsky, notes Dominic Scott, "sees himself as the heir to a tradition including such philosophers as Descartes, the Cambridge Platonists, and Leibniz" (346). Platonic anamnesis is, of course, not just of innate but of forgotten knowledge, but the idea of deep structure or innate grammar is different not in kind of but of degree. Whereas Platonic anamnesis seeks "the attainment of hard philosophical knowledge," Chomskyan linguistics seeks "linguistic competence" through innate knowledge of grammatical structures (ibid.). Steven Pinker extends Chomsky into

evolutionary biology and argues humans possess not only innate language “organs” but other mental organs as well owing to natural selection.

Davidson accepts our “language instinct” but opposes the idea that “language” is a representational system. We are genetically inclined to speak, and our groups develop languages and rules of thumb for those languages, but “We tend to think speech is radically different from the senses partly because there is no external organ devoted to it, and partly because of the diversity of languages” (“Seeing Through Language 131). However, Davidson suggests, we should see language precisely as an organ. So far, Davidson has no disagreement with Chomsky or Pinker. Where Pinker errs, Davidson thinks, is in thinking that what appear to be universals among language users means that we have an innate “mentalese,” a “‘language of thought,’ or representation of concepts and propositions in the brain in which ideas, including the meanings of words and sentences, are couched” (Pinker 509).⁴⁷ Davidson rejects mentalese. Pinker had adopted an analogy of language to sense organs, but Davidson sees it as no analogy. For him, language *is* an organ: “language aptitude is part of our natural equipment, and not a tool we contrived for coping with problems of understanding, calculation, and communication” (“Seeing” 133). Language is not something that translates thoughts, but rather is our natural organ for perceiving the world we are thinking about; language and thought are inseparable. Pinker’s mentalese divides the two and prioritizes thought, which means that “if the language of thought is what is part of us, then our spoken language *is* an intermediary between thought and what thought is about, and what is genetically engineered *does* threaten to hide or distort the world in much the way Kant

thought the architecture of the mind does” (“Seeing” 133). For Davidson, thought and language interact to produce increasingly complex thought and language.

Davidson accepts Chomsky’s evidence for genetic syntactical constraints. I would argue these constraints have something to do with working memory, the limits of what we can hold in our perceptual attention at one time. This view is compatible with Gopnik’s description of babies’ developing language habits. In a chapter appropriately titled “Escaping Plato’s Cave,” Gopnik explains brains as “causal maps.” She uses the term “map” more broadly than my application to synaptic connections, but my usage concurs with hers without much deviation. We know we are born with causal learning mechanisms in our brains. We learn by identifying and remembering causal relationships, and using them as blueprints by which to predict emerging events. We communicate to effect intentions as we interact, not to represent reality but to alter it. As Gopnik puts it, “Causal maps give you a way to make predictions about what the world will be like. By comparing those predictions with what actually happens, you can figure out systematically how likely it is that any particular causal map is actually true”

(*Philosophical Baby* 79). We often do this systematic work intuitively, such as when we interpret the sounds we call language. Babies anticipate sounds habitually associated together to recognize separations between words. Linguists following Chomsky or Pinker “would argue that there are very specialized parts of the brain designed just for dealing with language. But eight-month-olds can also detect patterns of probability when you do the same experiment with musical tones...or with visual scenes” (*Philosophical Baby* 82-3). In other words, our memories interpret sounds based not on localized grammar

organs, but on causal probabilities, and the activity of language interpretation occurs not in any localized area, but distributed throughout different areas of the brain. Cognitive psychologists have identified broad regions, but nothing is localized. So, brain activity during language comprehension is located in the left hemisphere, called Wernicke's area. Wernicke's area is connected to Broca's area, in the frontal lobe, which is activated during expressive activities. LeDoux explains, as cortical circuits develop in infancy, additional areas in the brain not normally associated with language use "can take on language functions" (*Synaptic Self* 88). The structures have not yet formed, and thus can form anywhere. As we age and get used to certain interactions, like language, it's harder to change the structures we use to communicate. That's why it's easier to learn multiple languages when we are young than when we are adults. To recontextualize Gopnik specific to language use, "The drive to experiment seems to be innate, but experimentation provides us with a way of learning things that are not innate. What are built in are techniques for discovering all the things that aren't built in" (*Philosophical Baby* 91). The complexity of our discourse is possible because of the sophistication of our memories and the accumulated habits of our discourse communities.

The neuroscientist Friedemann Pulvermüller questions why linguists do not consider neurological bases for language theory. He cites Chomsky, who commented at one point that one reason they don't could be that the relevant brain structures had not yet been found. Pulvermüller grants this, but argues that Chomsky's position is akin to an astronomer who will talk about stars but will not discuss the elements that make up those stars (270-71). Ironically, Pulvermüller accepts the basic correctness of Chomskyan deep

structure, and all his empirical and theoretical effort rests on the assumption of a completely abstract theory. Deep structure's primary empirical data are tree diagrams of sentences. I would argue, however, that the only reason we can diagram sentences is because we believe there is a structural grammar. Whether our approach is prescriptive or descriptive, we assume grammar to be structure external to discourse. Given the present work, it is no surprise that I agree with Pulvermüller that we should develop abstract theories of discourse that take into account empirical brain science. However, I see no reason based on empirical brain science to accept abstract theories of representational language and grammatical deep structure.

Synaptic mapping does not support language as a representational closed system. Synaptic mapping creates concepts via associative bonding of neurons. Language as a system does not create concepts. On the contrary, concepts incite language (which creates further concepts) as theories by which we use our cumulative experience with discourse to create the sounds, marks, and gestures we think most likely to indicate to interlocutors whatever it is we wish to indicate. While Chomsky is probably correct that we are genetically predisposed to use sounds and gestures to communicate, and that there probably some syntactical limitations (likely related to working memory), it does not follow that there is an innate grammar that dictates how concepts and sounds are associated with one another, a mentalese that language translates.

Another factor contrary to the very idea of mentalese is that language-learning in babies is future-oriented. Alison Gopnik's studies found that "babies, who were still just using single words, at the very start of language, would use them to talk about

possibilities as well as actualities. There was not only the ubiquitous ‘brm-brm,’ but ‘apple’ when pretending to eat a ball, or ‘night-night’ when putting a doll to bed” (*Philosophical Baby* 28). A toddler, named Jonathan, who had a scarf for himself and one for his stuffed bear, put his teddy bear’s scarf around his own neck and “announced his new identity: ‘Jonathan Bear!’” (ibid.). What we see here are “words,” arbitrary sounds habitually standardized through usage with others in an environment used as sentences to indicate the babies’ imaginative theories about the world. Word-sentences, furthermore, indicate possibilities that could or should have happened, or might happen. Language use is not about representing objective reality but about shaping unfolding reality.

The brain is conditioned towards habits by its environments’ alterations, but also allows through that plasticity our ability to deliberately alter our habits, including and especially our language use. None of these phenomena could be possible if grammar was a rigid, externally imposed system. Language use is an inborn trait, but language systems are not. The mind and the brain’s memory functions are associative interactions of multiple objects across multiple fields, oriented to future intentions. Language, which develops interdependently with thought, should work the same way.

Causal Language

Mary Carruthers’s studies of monastic rhetoric found that the monks meditated on images as cognitive indices for memory rather than for mimesis (*Craft of Thought* 3). For them, images were “the matrix of a reminiscing cogitation, shuffling and collating ‘things’ ...or set of schemes...built up during one’s lifetime with the express intention that it be used inventively” (4). I would argue that, if we think of “words” as mnemonic

devices that we use to inventively indicate our intentions, we can see lexicons similarly as indices rather than mimetic referents.

Thinking and learning are causal, interactive, and future-oriented, and so are our brain's memory functions. Why would language be any different? Our "language instinct" is our evolved capacity to make complicated sounds, gestures, and more recently in human history, marks, to indicate complex thoughts and intentions. Our memories are more complex than those of any other animal, and that is why we can communicate more complex thoughts. It's a simple fact that necessitates a complicated conceptual shift in how we think about discourse.

A causal theory of language holds that meaning is not antecedent to language use (and therefore contra Lacan, does not "speak us") but lies in the future consequences of the expression, i.e. what the speaker intends her effect to be, what the hearer interprets the intention and other subjective reactions to be, and what effect(s) ends up occurring. More simply put, meaning lies in a relation between intended and actual effects. I make the sounds, "I'm hungry," predicting that they will result in an intended effect, such as perhaps my partner will make me some lunch. If the effect I intended is not forthcoming, I might add the sounds, "make me some lunch." However, if I do this, I may cause some unintended effects, like my partner getting angry and telling me to make it my damn self.

Language is not a metaphysical system—there is no metaphysical world—but individually enacted theories of communication based on habitual use of sounds, marks, and gestures. We might call habitual, historical uses a lexicon or a grammar, but in descriptive rather than prescriptive terms, because they are habits and not systems.

Languages are habits that may be employed systematically, but they are not constrictive systems that can be used “correctly” or “incorrectly”—only effectively or ineffectively. They function as things and relations that call attention to other things and relations, and we employ them based on what we intend their consequences to be. Communication is indicative of interlocutors’ intentions and motivated by their concerns, though as Cooper argues, these are not required for agency per se. Communications that do not succeed in indicating interlocutors’ intentions or bring unintended consequences change the environments of interlocutors as much as successful communications. What is important is that when we communicate, we take into account how we think our interlocutors will interpret our sounds, marks, and gestures, and we enact those sounds, marks, and gestures so as to condition the interpretations and reactions we intend.

Removing the boundary of incommensurate “languages” and “cultures” locates interacting beings in one world in which they may have different habits of communication, but can still understand one another, if not as precisely as we would with similar habits. Davidson’s theory finds practical application when considered alongside Bakhtinian dialogism. In dialogism, “language is not structural but interactive ... understanding is not the passive decoding of a message but an active response to a prior utterance—a response intending to elicit another response” (Yarbrough, *After Rhetoric* 7). While language as an abstract system does not exist, utterances are real, holistic, and motivated by perceptions of difference, and they alter the world whether true or false.

Discourse is fundamentally our inquiries about the causes of differences in perception about the world. It is our most neurologically sophisticated method of

learning, as I will discuss further in the next section. We use sounds, marks, and gestures that we assume (hope) our interlocutors share in order to indicate desired meanings. The discrete units of sounds and marks, words, are mnemonic triggers to objective data and shared “cultural” markers, e.g. 9/11. Words only have meaning inasmuch as they function in sentences, which are the smallest unit of potential semantic meaning, and any sentence, outside a particular context or situation, is only potentially, not actually, meaningful.

Meaning can only arise when “causes converge; your utterance means what mine does if belief in its truth is systematically caused by the same events and objects” (Davidson, “Coherence Theory” 151). It’s not language that allows for successful communication, but our successful prediction of whether others will interpret our discourse as we would if we were they. Our brains, writes science journalist and media theorist Steven Johnson, are like fingerprints, working via the same mechanisms but functioning on wholly unique levels due to our individual experiences and consciousnesses (4). Thus, when we communicate with one another, we share a certain baseline similarity, but have to engage in a complicated dance of “mindreading” (36). Our brains interpret simultaneously sounds we might recognize as words, which give us reason to believe our interlocutors share a lexicon, along with eye cues, tonal cues, and so on. It’s an amazing feat, and “easily overlooked: the brain’s ability to read these signals, to peer into the inner landscape of *another* mind, while relying on only the most transient of cues” (20). The discovery of “mirror neurons” in the late 1990s offered to researchers potential physical demonstrations of what the mind does when we engage with other human beings in discourse: we “draw analogies between our own mental and physical

states and those of other individuals” (23). The function of mirror neurons is controversial in the scientific community, but whatever the source of our analogy drawing, we do draw the analogies, and in face-to-face dialogue, we adjust to consider difference, both visible and perceived as we work back-and-forth in language. It’s a process of triangulation, again as Davidson describes:

The sharing of responses to stimuli found similar allows an interpersonal element to emerge: creatures that share responses can correlate each other’s responses with what they are responses to. Person A responds to Person B’s responses to situations both A and B find similar. A triangle is thus set up, the three corners being A, B, and the objects, events, or stations to which they mutually respond. This elaborate, but commonplace, triangular interaction between creatures and a shared environment does not require thought or language; it occurs with great frequency among animals that neither think nor talk. Birds and fish do it as well as monkeys, elephants, and whales. (“Seeing Through Language” 140)

What gives us the more complex capacity for thought and communication is, first, the concept of error, which Davidson defines as the “distinction between belief and truth” (“Seeing” 141). That is to say, for example, the gap between our beliefs about what will happen and what actually happens. I may attempt to eat a rock, but I would quickly find myself in error. Second, we cannot understand the concept of truth without being able to “communicate the...propositional contents...of the shared experience, and this requires language” (“Seeing” 141). Thus, neither thought nor language precedes the other, for they are interdependent and develop together. Language, finally, is the perceptive organ by which we interpret our world and our interlocutors.

So we start out by putting our interlocutors into *our* shoes, and work backwards as we attempt to construct and understand the other person’s point of view. This process

happens quickly and automatically, and works from what Davidson calls the principle of interpretive charity.⁴⁸ We initially believe a person means what we would have meant if we had used those words in that context in that tone, etc., in order to determine whether to retain or reject our initial belief. The Davidsonian principle of charity by which we interpret our interlocutors assumes, whenever it is plausible, that they hold “true” beliefs, that is, the principle assumes a holistic rationality in belief and causal relatedness between beliefs. Linguistic conventions—habits—facilitate understanding but are not the basis of understanding. This is a humanistic perspective; Davidson argues that there is one real world, and it is a world in which we can comprehend and articulate truth theories to one another, theories that may be (and are constantly) revised. “Language” is our constant cooperative attempt to develop working theories about the world in the emerging present.

Yarbrough has already argued for his causal theory, and made extensive analyses of Davidson and Mead, so I will not attempt to recreate his efforts here.⁴⁹ I have summarized aspects of his argument to illustrate the parallels between it and my description of memory in the brain. In doing so, my goal is to account for our agency through discursive interaction and our ability to examine our own habits and literally change our minds.

Cooper defines agency somewhat differently from some common conceptions, in which intention is paramount, and her definition establishes ethical grounds for a causal theory of language. Cooper argues that intention is important but not required for meaning:

We have for a long time understood an agent as one who through conscious intention or free will causes changes in the world. But I suggest that neither conscious intention nor free will—at least as we commonly think of them—is involved in acting or bringing about change: though the world changes in response to individual action, agents are very often not aware of the intentions, they do not directly cause changes, and the choices they make are not free from influence from their inheritance, past experiences, or their surround. (421)

Cooper's alteration of agency is based on her employment of complexity theory, in which "emergent properties (such as agency)...function as part of the systems in which they originate. And causation in complex systems is nonlinear: change arises not as the effect of a discrete cause, but from the dance of perturbation and response as agents interact" (421). To put it plainly, individuals interact within environments. Their actions, whether consciously intended or not, change their environments, which in turn condition emergent actions, which may or may not be intentional. The nonlinear properties of causation ensure both that unintended consequences condition future actions and reactions, and that agents can act intentionally to cause desired consequences, though their actions are not guaranteed success. Thus, the best laid plans of mice and men alter the world, whether they go awry or not. This both/and conception of agency is similar to the ways in which memory works—ecosystemic and complex, rather than syllogistic and simple. Further, this ecosystemic complexity locates discourse *within* that messy ecosystem, rather than apart in some mimetic hierarchy.

If we see language as causal we can see how, in memory, synapses create associations, relationships that we "store" using certain mnemonic devices that we use to form units of meaning. To put it in more familiar terms, we use words to make sentences, which are, claims Davidson, the smallest unit of meaning. Words do not represent pre-

determined topical relationships but indicate an interlocutor's understanding of habitual usage, individual associations, and contingent connections to various other memories and purposes of use. All of these habits, associations, and connections are created, maintained, and altered in the brain as we interact with our environments.

Mimesis leaves us searching for Truth. A causal theory instead conceives our habitual vocabulary to be the reminder of what we've thought and done and searched for up to this point in time. Perhaps we have what we could call a "language instinct," but grammar is just a way of describing our memory's ability to express and interpret mnemonic indicators, which has intended and unintended consequences. A causal theory of language holds gesture, sound, and mark as indicative, "pointing toward" intentional and unintentional results, rather than a representational "being." Language establishes a temporal relationship between interlocutors' intentions via sounds/gestures/marks and the consequences of their utterances. The final importance of causal language theory is that it de-centers and destabilizes any authority for meaning. Meaning arises from interpretation. Interlocutors try to figure out what the speaker intends, and what the consequences of such an intention might be, and react to the speaker's rhetoric, in ways the speaker may not have intended. Finally, a causal view of language necessitates a movable center, a situational grounding of presumed truths from which to base interpretive predictions, which ethos provides. As I argue in the next two chapters, memory works to establish ethical centers.

CHAPTER IV

ETHOS AND DISCOURSE

I'll see it when I believe it.

--Anonymous Congregationalist, Church of Christ, Pinehurst, NC

Leonard Mlodinow among others has pointed out that humans tend to find patterns where they don't really exist, like seeing the shapes of bunny rabbits in clouds.⁵⁰ The tendency is symptomatic of our brains, which are geared toward an intuitive form of the scientific method: hypothesis—experiment—memory—application. More importantly, and especially since the advent of writing, humans tend to find patterns and assume erroneously they are structures (see my discussion of representational language theories in the previous chapter).

The primary reason for this tendency, I would argue, is the fact that we create synaptic maps. These are structures of a sort, plastic structures that we constantly adapt, structures of our own creation through interaction. Synaptic maps form our understandings of concepts through memory. Our brains are equipped to interpret our environments causally. Thus, we “look” for patterns. We are capable of finding images in clouds because we categorize shapes. How we have categorized, moreover, conditions how we categorize. The sociological term for this phenomenon is “path dependence.” We take an action, and we remember its success or failure, and that memory guides further decisions for action based what possibilities we perceive in light of the previous action.

We can change course, as it were, dynamically, through force of will or necessity of circumstance. As the surgeon and journalist Atul Gawande has described it,

With path-dependent processes, the outcome is unpredictable at the start. Small, often random events early in the process are ‘remembered,’ continuing to have influence later. And, as you go along, the range of future possibilities gets narrower. It becomes more and more unlikely that you can simply shift from one path to another, even if you are locked in on a path that has a lower payoff than an alternate one. (30)

That is to say, the aggregation of consequences reinforces an ethical stance, and we will continue to tend toward actions that our logic will tell us are detrimental. We’ll justify detrimental actions on “the principle of the thing,” or stick with “what works,” settling into a comfort zone of interpretive strategies. Recognizing path-dependence frees us to conceptualize, hypothesize, and choose actions that break free of ruts. It’s difficult—we are literally changing the shapes of our brains—but necessary to responding to and shaping our environments.

I just used the term, “ethical stance,” which will be one of the primary subjects of this chapter. As Yarbrough defines it, ethos, or an ethical stance, “is the set of social relations we project upon a situation that determines how we interact with things” (“Modes of Persuasion” 499). It’s what sets the stage for path-dependent actions, be they beneficial or detrimental. A simple example of sexism illustrates how ethical stances work.⁵¹ John comes to Brand X Company to meet with the CEO, Terry. He enters the conference room, where a man and a woman are pouring cups of coffee. He walks up to the man, and introduces himself. He has assumed the man is Terry; because his ethical stance to the business world, company leadership, and other connected concepts inclines

him to regard men as bosses, when he entered the room, he might not have even noticed the woman. When Terry, who, as you may by now have guessed is actually the woman, offers a correction, John makes an ethical shift that allows him to see a woman as a CEO. When John was presented with information that resisted his expectations, he made a shift that opened up this new possibility (female boss). His actual reaction was sheepish embarrassment, because he realized that he had presumed an association of maleness with bossness. Ethical stances form our potential path dependencies, and ethical stances and shifts condition what we pay attention to. Much of this is unconscious activity. We become accustomed to expect certain causal relationships and tend not to notice others, as Eric Kandel demonstrated in his studies of memory and attention.

There are two types of attention. Exogenous attention activates when something external, usually unexpected, “catches our eye.” An attractive person walks by, or your peripheral vision registers a long coiled object that might be a hose, but you should jump back just in case. Endogenous attention, on the other hand, is our voluntary decisions to focus on one object or another, either self-motivated or persuaded. Our endogenous attention is how we deliberately, literally change our minds and brains. As aspects of our environment become more familiar, we notice them less, that is, we are less conscious of them than before, unless we choose to pay attention to them. This is important to learning and successful functioning in the world. But it also means we become accustomed to things being a certain way, and our assumed values become the norm by which we interpret others.

I argued in the last chapter that a neurological grounding of memory along with a distributed cognition perspective of the mind lends support to a causal theory of language by locating the processes by which we form habits of communication in the brain, as opposed to representative theories that we acquire a metaphysical structure mediating thought and reality called “language.” Language, discursive interaction, is the organ with which we perceive and alter the world. In order to successfully communicate, however, we must be able to align our meanings with our interlocutors’ meanings. I will argue in the next chapter that in predicting how our meanings will align with others’ through discoursing, rhetorical memory is a self-directed neurological formation of synaptic maps as ethical stances, which I call ethical grounding. Our minds direct our brains’ memories, which is another way of saying that we think. In this chapter, I argue that synaptic maps can be seen as rhetorical common and special topics, the sets of relationships we employ to interpret and discourse about our world. Second, we can understand rhetoric itself as the physical enactment and revision of ethical stances as collections of synaptic maps—sets of interrelated *topoi*—through discourse.

In what follows, I first discuss ethos in terms of ethical stances and ethical shifts. I then argue that *topoi* can be seen as parts and products of synaptic mapping that we use to interpret and to discourse. I then conclude that these synaptic associations make up our ethical stances, which condition our affective and cognitive responses to stimuli. Language use involves deliberate, directive reflection and revision of ethical stances in order to understand and be understood.

Ethos and Ethical Apperception

Ethos in classical rhetoric usually means the “character” of a speaker, which persuades by establishing a rhetor’s credibility, giving the impression of reliability or eliciting sympathy from an audience (Wisse 7). Many have taken “character” to be inherent in a thing, but classical definitions offer more complicated implications.⁵² In *Rhetoric*, Aristotle explains, “Persuasion is achieved by the speaker’s personal character when the speech is so spoken as to make us think him credible” (1356^a4-6). Character is established by the manner of communication, not necessarily due to inherent qualities. For Quintilian, ethos refers to calmer, continuous emotions that affect an audience’s disposition toward the speaker’s character, as opposed to pathos, which to him is the stronger emotion that the speaker intends to induce in his audience. He writes, “The ethos which I mean, and which I want to see in a speaker, will be that which is recommended primarily by goodness: not only mild and calm, but usually attractive and polite, and pleasing and delightful to the listeners” (VI.ii.13). Implied by both perspectives is a goodwill toward the rhetor induced in the audience by the rhetor. Therefore, “character” is as much performance tailored to the rhetor’s predictions of whom the audience will trust as it is “actual” character. Ethos depends on an understanding of situational decorum. That understanding is a matter of belief, and therefore can be in error.

Yarbrough’s interactionist understanding of ethos as “the set of social relations we project on a situation” means that “The specific topical relations our interactions produce, and the concepts, enthymemes, and beliefs we subsequently develop, are consequences of [those projections]” (“Modes” 499). In the example above, John did not

recognize a set of social relations—what Yarbrough would call an “ethical field”—in which a woman could be the CEO of a company. His ethical stance entering the discursive situation conditioned him not to notice the woman in the room as potentially being Terry, the CEO. Incidentally, his mistake revealed something to his audience about his character, defined as the set of social relations he accepts, or his values. When Terry introduced herself as the boss, she disrupted John’s expectations of how the meeting was going to go, and recognized that the topical relations he had assumed to be in play were incorrect. He made an ethical shift that expanded the set of social relations he understood to be in play, and his emotional reaction of embarrassment indicated to his interlocutors that he knew what his mistake was and why it mattered to the situation.

For Yarbrough, ethos interactionally “is neither a determining essence nor a system or network of particular beliefs. Interactionally, ethos is closer to the term’s original sense in the context of hunting...a familiarity with how things relate to one another with respect to a particular purpose in a particular place” (“Modes” 500). As an example, he points out the very different understandings of a field that a hunter and a farmer would have. Functionally, what they do in a field conditions their beliefs about that field, which then would establish their character in discoursing about the field. But importantly, ethos depends “upon the primordial sense of a habitual, purposeful stance toward and subsequent way of interacting with objects of a discursive situation” (“Modes” 500-1). Stances can and do change, abruptly and unwittingly in the case of John’s mistake, or deliberately, as when a hunter, perhaps becoming comfortable in an area, decides to plant crops and settle down as a farmer.

Let me clarify that stances do not change in isolation (from an interactionist perspective, I'm not sure anything does). As Nedra Reynolds, among others, has argued, ethos "is not measurable traits displayed by an individual; rather, it is a complex set of characteristics constructed by a group, sanctioned by that group, and more readily recognizable to others who belong or who share similar values or experiences" ("Ethos as Location" 327). Ethos etymologically has to do with location and habit – where we feel comfortable, what is appropriate to our situation – than with an "appeal." Our habitual behavior in shared spaces constitutes our character in relation to others sharing those spaces (Halloran, "Aristotle's Concept of Ethos" 60).

Ethos for Yarbrough, moreover, is closely related to *topoi*, the sets of relationships we habitually use to interpret and act in an emerging situation. Topoi are "places to find things," commonplaces, heuristics for discovering or inventing things to say about a given subject. In the thousands of years *topoi* have been studied and employed by rhetoricians, they have been cast as commonplaces, arenas, schemata/genres, templates, types, forms, and so on (*Inventive Intercourse* 36). Common to all these revisions of *topoi* is a spatiality; Yarbrough in explaining the connection between ethos and *topoi* cites Charles Chamberlain's description, "The arena where someone is most truly at home" ("Modes" 500). Ethos is a space, a site of interaction, in which relationships are recognizable and therefore comfortable. Yarbrough acknowledges that in cognitive science, *topoi* or "schemas" are "regarded as mental structures that may or may not correspond to neurological or linguistic structures, but which, as the *topoi* did for Aristotle, organize memory and direct problem solving"

(*Inventive Intercourse* 36). Davidson's understanding of supervenience holds that nothing is mental that is not also physical. I would argue one step further, that *topoi* do not just correspond with mental structures, but in fact *are* mental structures, synaptic maps that extend innate capacities for causal perception.

Synaptic Mapping and Topoi

Memory has been dissipated in modern composition theory as a “repository for guiding invention, arrangement, and style” (Reynolds 11). Primarily, memory is cast as the repository of the *topoi*, which we use to invent discourse. Composition as a discipline, as Marion Joan Francoz asserts, somehow still retains to a large degree the conception of memory as mnemonic and mimetic (12). Memory, however, is not decontextualized like a computer database or a library, but “dynamic; elaborated; generative; transformatory; dependent on context, meaning, and emotion; biologically unique; and yet, equally, shaped by social environment” (11). It does not store but creates. It is an activity, both a noun and a verb, of bonding synapses into maps of concepts.

Davidson argues that while “Evolution has made us more or less fit for our environment, ... evolution could not endow us with concepts. Nature decided what concepts would come naturally, of course; but this is not to say the mind knew in advance what nature would be like” (“Seeing” 134). This is only partly true. Our brains are genetically prepared to learn causally. Brains have the capacity to make associative, relational connections, e.g. cause-and-effect, definition or category, compare-and-contrast, and so on. The brain “knows” in advance to expect emergent events to have

predictable relationships which, as we learn, we remember as concepts, in the Peircean sense I mentioned previously.

Children's brains are equipped with the ability to theorize possibilities and categorize events. This ability is largely unconscious, but we become more aware of it as we age (Gopnik, *Philosophical Baby* 38-9). These topical relations are in our brains from birth. Gopnik writes, "Children's brains construct a kind of unconscious causal map, an accurate picture of the way the world works," and they use these maps to make "blueprints. ...But instead of making the blueprint match the world, we change the world to match the blueprint" (ibid.). Children examine their experiences, predict possible outcomes of their actions, and choose courses of action that they think will result in desired outcomes. Their ability to create causal maps allows them to imagine multiple future worlds, i.e. multiple possible futures, choose desired possibilities, and theorize actions that will bring them into reality. These imagined worlds are not merely concerned with physical changes, but psychological, which is one of the developmental reasons children create imaginary friends. They practice interaction by imaginatively adopting another's point of view in order to learn to make reliable predictions about others' attitudes and how they might influence them (ibid.). I said in the previous chapter that language did not create concepts, but rather, we perceive concepts with language as theories we use to discourse and create new or extend old concepts. Another way to put it, in Yarbrough's words, is that "We don't understand the world as we understand language; we understand language as we understand the world" (*Inventive Intercourse* 29). We use language to indicate how we want to enact and alter the blueprint.

At the pedagogical level, the most relevant questions for rhetoric and composition are, how effectively do we indicate our intentions, and how can we teach and learn to be more effective? I signaled in the Introduction that rhetorical memory as ethical grounding offered a question-based approach to rhetoric. This approach is somewhat like that outlined in Michel Meyer's *Rhetoric, Language, and Reason*. Meyer argues that, while since Socrates questions have been the foundation of philosophy, subsequent "philosophers have preferred to adopt another norm, granting privilege to answers and thereby repressing questions into the realm of the preliminary and the unessential" (1). He develops a philosophical approach he calls problematology that "stresses the role and relevance of questioning in the approach to language and reasoning" (ibid.) I build upon his application of problematology to rhetoric, using the neurological and interactionist perspectives I have explored in these chapters, to conceive rhetorical memory's function as ethical grounding. I describe that approach in detail in Chapter Four. Before I can do that, however, I need to discuss how we learn.

Neuroscience initially had competing theories about how we learn that are beginning to blend together, instructionalism and selectionism. In the former, external stimuli spur the formation of synaptic structures, and in the latter, external stimuli spur the brain to select from pre-existing synaptic structures. Niels Jerne's work argues that throughout biology we see initial theories of instructionalism giving way to selectionism as technological and theoretical advances offer empirical evidence supporting the latter. He argues selectionism accounts for the brain's synaptic activity as well, that a Lockean blank slate was inaccurate. Instead, he concurs with the Sophistic notions that "learning,"

as in filling the mind from external teaching, is impossible as such.⁵³ Echoing *Meno*, Jerne argues that “learning consists of being reminded of what is already in the brain” (qtd. in LeDoux 73). Jean-Pierre Changeux also argues that the activity of neurons eliminates pre-existing synaptic connections, rather than creating new ones.⁵⁴

In neural selectionism, activity is described in terms of exuberance, use, and subtraction, i.e. more synapses are created than are retained, the ones that are used are retained, and the ones that are not used are deleted (LeDoux, *Synaptic Self* 74). Thus, for synapses, it’s “use it or lose it.” Selectionism is finally supported by the fact that, neural activity increases synaptic complexity, rather than stabilizing “the preexisting pattern—activity therefore is capable of instructing the formation of new synaptic connections” (*Synaptic Self* 77). Yet, increasingly scientists are blending the views. Activity creates new connections not entirely as new, separate maps, but by adding them to “intrinsically determined preexisting connections” (*Synaptic Self* 78). That is to say, we create new maps for new experiences by extending them from the preexisting, innate, causal categories. Most connections in people are the same. Activity produces the differences among people, that is to say, the decisions we make and subsequent perceptions we have account for our differences. Nature and nurture, instruction and selection, the key is that our brains basically function the same way to enable the same mental processes, but the way those functions and processes work depends on individual genetics and experiences.

At birth we have innate mental faculties that we use to categorize emergent experiences. These categories are at their base physics—cause-and-effect, motion, purpose, material substance. We combine these basic relationships through interaction to

create meanings, and as we learn “vocabulary,” we include sounds in our associative memories, which we turn into utterances that indicate intentions, i.e. sentences. Words both enable and are enabled by our formation of concepts, the complexity of which increases exponentially once we begin to communicate. Babies can begin communicating in simple signs beginning at about six months, at which point they can associate gestures with intentions, and can indicate “I’m hungry and want milk” or “I have soiled my diaper and would appreciate a replacement.”

Whereas earlier psychologists like Sigmund Freud and Jean Piaget saw children’s imaginative play as evidence that they could not distinguish between fantasy and reality, cognitive scientists have demonstrated that in fact children can distinguish the difference quite well, that children know that they are pretending. As Gopnik writes, “Once you know how one thing is causally connected to another you can predict what will happen to one thing if you act to change another—you can see what a difference making things different will make” (*Philosophical Baby* 32). Our ability to understand the world in causal terms allows us to deliberately change the world. We can imagine alternatives, consider probabilities, and make choices. The key is how we frame our questions. What alternatives can we conceive, and what probabilities can we calculate? This is the key question answered by our ethical stances.

Starting at around age two, children “formulate a causal map of the mind. They start to understand the causal connections between desires and beliefs, emotions and actions,” and learn not only that people are different, but that we can influence one another through interaction and discourse (*Philosophical Baby* 55). As they learn about

objects in their environment, they can envision new possibilities. So, for example, “Once you know how rakes and toys work you can do something new to make a distant toy move. Once you know how people’s tastes [preferences] work you can do something new to make them happy” (*Philosophical Baby* 56). They also learn that their ideas about how the world works can be wrong, and how to theorize new causal relationships through syllogistic and enthymemic reasoning using trial-and-error experimentation and critical observation, and rhetoric. Children align their ethical stances with others to achieve communicative success: “If I know that Anne has a particular passion for broccoli I’ll know that I can bribe her with broccoli to do what I want, or tease her by withholding broccoli, or make her like me by presenting her with [a platter of it], all techniques that will be worse than useless if she really only likes crackers” (*Philosophical Baby* 57). Rhetoric is key to understanding the minds of others, and it is simple enough to understand that we learn about other’s minds by listening to them and interpreting their words (*Philosophical Baby* 101-3). (The *how* is not quite as simple.)

Learning is the creation of synaptic maps. Whereas the creation of new neurons—neurogenesis—slows and stops relatively early in life, synaptogenesis continues until death; as long as we are thinking, we are creating, altering, and connecting synaptic maps (LeDoux, *Synaptic Self* 67-8). We learn facts and relationships as semantic memories, and as mentioned in the previous chapter, semantic memories are grouped into modules. Another way of saying this is, concepts are bundles of *topoi*.

For Aristotle, the topics were “both the stuff of which arguments are made and the form of those arguments” (Lanham 152). It is a general relationship, a pattern, from

which we may derive many specific enthymemes. He divided common topics applicable to any situation or subject from special topics, which can only apply to specific situations and subjects. The common topical categories correlate with our innate capacities for causal learning: Aristotle identified them as (1) the possible and impossible (2) past fact (3) future fact (4) the lesser and the greater.⁵⁵ We begin making categorizations along lines like these the moment we are born. Common and special topics demonstrate ethical stances in discursive interaction; we are prepared to accept legitimate authority from our interlocutors's status (say, as "mommy") or based on them claiming to have seen something happen, and so on. Topical relationships can be combined with other topical relationships to engage in specific linguistic interactions.

We have innate, intuitive facility for recognizing topical relationships, from which everything else is learned. Learning comes from adjusting to others interactively, that is, making ethical shifts. The "at-homeness" of ethical stances is due to the fact that these mental structures have been formed and allow us to easily make interpretations and attend to stimuli in ways that work. We tend to adjust ourselves to the mean of the environment, by imitating others' behaviors and discourse conventions, and empathizing with their expressed emotional states. Some scientists, most prominently Marco Iacoboni, argue these capacities of imitation and empathy, as well as complex behaviors like altruism and language, are enabled by "mirror neurons," neurons that show activity on fMRI's in various areas of the premotor and parietal cortex when animals perform actions and see other animals performing the same actions. Others argue that it is premature to

identify mirror neurons as a separate class of cells, and attribute such complex behaviors to this single explanation.

Iacoboni tends to make similar arguments as Damasio and Pinker concerning the brain explaining the mind, and Gopnik argues, “Newborns have never seen their own faces. To imitate facial expressions in particular, newborns must somehow map expressions to feelings” (*Philosophical Baby* 205). What is certain is that causal relationships play into children’s experimentation with their facial expressions and their interpretations of the faces they see. Gopnik rejects mirror neurons as explaining imitation related to empathy, altruism, and language. She thinks, again, that these phenomena are distributed throughout the brain and mind. Most important, she thinks, children’s hypothetical thinking about possible futures enables them to care about other people and tend to their discomfort (*Philosophical Baby* 216).

Whether via mirror neurons or other phenomena, we do draw analogies that enable us to imagine others’ possible perspectives. Causal thinking lets us imagine what is possible. Normative thinking, deciding which choices would be better or worse in relation to the people and objects with which we’re interacting, lets us choose actions that effect desired possibilities (*Philosophical Baby* 221-2). We make and imitate rules to fit in and maintain our environments, as well as to change them. We decide what rules to follow and what rules to break or update, based in part on consequences, predictions, and so on.

The self has many unconscious mediations that affect decision-making and the way we react to members of perceived “other” groups (LeDoux, *Synaptic Self* 27). These

unconscious mediations are part of ethos; the mediations are recognitions of topical relationships we expect in an emergent situation, which we then react to with pleasure, annoyance, surprise, etc. The selectivity of attention, the brain's filtering of stimuli so that only a small fragment of the environment appears in our immediate consciousness, reflects ethical stances and intentions. A study, in which subjects looked at flashing pictures and were given incentives to find various letters or numbers, found that when looking for one, the subjects tended not to be able to identify the other.⁵⁶ We tend to find what we are looking for, in other words, but at the expense of other pieces of the world around us. This selectivity is important, because it allows us to make sense of the world. If our brains had no attentive filters, we would be overwhelmed. This selectivity is also important to be aware of and constantly reflect on, however. Our biases and values condition what we pay attention to, and can put us in error, as John found, no doubt to his chagrin, when he misidentified Terry the CEO. In fact, he might not have even *noticed* the woman when he entered the room. He was looking for a CEO, he assumed CEOs were men, and he found what he was looking for, or so he thought.

Ethos and Temporality

Yarbrough does not think that ethos temporally precedes pathos and logos in apperception, but that they are unitary process that can be analyzed in phases. However, because of the conditioning effects of ethos as Yarbrough formulates it, an ethical stance *must* be in play prior to the occurrence of an emotional reaction and logical interpretation. This is not to say that an ethos can be established in the absence of any pathos or logos. It is to say, however, that the egg comes before the chicken in the sense that we are born

with innate faculties that categorize emergent experiences. From birth, we immediately begin forming ethical stances and ethical shifts. Ethos is the shifting baseline, the central values relevant to specific, situated contexts. If I hear someone make a racist remark, my emotional reactions (anger, disgust, sadness) and logical interpretations (this person is wrong, perhaps ignorant or hateful or both, should I confront him?) depend upon my ethical stance toward racism. If I am somehow ignorant of racism (perhaps I am a child, or naïve, or foreign to a culture), then I cannot react emotionally or logically to the racist comment, save perhaps for confusion or unease, or I might not recognize the comment as racist at all. I just won't get it.

The brain's hierarchical divisions would bear out the argument that ethical stances might temporally precede pathos, which in turn temporally precedes logos. The neocortex lags behind the limbic system, for example, meaning that we feel an emotion before we decide what action to take. Emotion, particularly fear, processed in the amygdala is one synaptic step removed from sensory systems, whereas declarative memories are several synaptic steps removed. This is a survival mechanism, the need to respond to danger more quickly than we could if we had to think about it. The side effect of this is that emotional impulses, pathos, activate before cognitive decision-making, logos. We can try then, roughly, to locate the phases of discourse in chronological time: the past establishes principles (ethos), the present incites attention (pathos), the future invites plan (logos). It's not quite that simple, though. According to Yarbrough, rhetorical apperception is a process, not of discrete interchangeable components, but "through a unitary, inferential process having *simultaneously* cognitive, ethical, and affective phases" ("Getting It" 8;

see also “Modes”). The process does occur in time, however. Synapses actually change as apperception causes ethical shifts. Ethical shifting *seems* out of time, because once it happens, it seems not to have happened. Neuroscientist Earl Miller notes that when we have an insight—which is in light of this work an ethical shift—that is to say, when we see something in a totally different way than we had before, brain cells alter and create a new pattern of neural activity in the prefrontal cortex. Miller explains, “An insight is a restructuring of information—it’s seeing the same old thing in a completely new way. ... Once that restructuring occurs, you never go back” (qtd. in Lehrer 45). In other words, we rearrange our synaptic maps. The act of interpretation is simultaneous, but the act of memory is in time, with ethical stances conditioning affective and cognitive possibilities, which in turn reinforce or revise stances. Emergent experiences collide with and contradict our ethical stances, and we adapt. Synaptic mapping is directed by the individual conditioned by her environment and previous mapping. An ethical shift occurs when an individual encounters and cognizes a new arrangement of objects. The shift is in the mapping, and re-maps everything that came before it, instantly. As I mentioned before, though, the old maps are still there, unused but potentially remembered, that is, potentially incorporated within the new map. The image of topography I used in the previous chapter is one way of visualizing “old” ethical stances as palimpsests.

Ethical Shifting and Synaptic Mapping

What most separates humans from every other animal is our capacity to change (Gopnik, *Philosophical Baby* 6). Almost all of that capacity for change is in our brains, and we negotiate change primarily through discursive interaction. Psychologist Paul

Bloom argues that what is missing from neurologists' interpretation of their studies "is an understanding of the role of deliberate persuasion" (par. 6). I agree. Rhetorical theory can help articulate an understanding of the interdependent development of thought and language as the interaction of individuals through neurological processes. We might say, as George Herbert Mead argues, and Davidson extends, significance, meaning, and communication do "not lie in mental processes which are enclosed in individuals" (247). Objects are subjective when related to a self, and selves arise from "the development of conduct," conduct being the sum total of the relations a self has with its environment (242). Those relations tend to involve persuading and being persuaded toward beliefs about the world.

Classical rhetoricians and contemporary cognitive psychologists alike understand that memory can be influenced by rhetoric. For example, a series of experiments by psychologist Elizabeth Loftus in the 1990s showed participants footage of a car accident. Some of the participants were asked how fast the cars were going when they "smashed into" each other, and others were asked how fast the cars were going when they "hit" each other. Those who heard "smashed into" invariably remembered the cars going much faster than they actually were.⁵⁷ It's a simple but important example of how discourse influences and conditions perception and memory, which, in turn, influences our future interpretations and actions.

In order to be persuadable, our ethical stances have to have some common ground with those of our interlocutors. Our employment of ethical stances as we enter new discursive situations is intuitive. Our expectations entering rhetorical situations are

conditioned by our past experiences (actual or virtual, e.g. having heard or read about), and those past experiences, and the context and timing of the present experience govern our stances toward situations. Thus, we encounter a situation, and recognize it as belonging to a schema or genre or set of topical relations, activating a set of expectations. The manner in which our expectations are met and/or broken necessitates an interpretation, and an adjustment of our conception of the situation we recognized, or thought we recognized, and through that interaction we produce meaning. We have encountered “things like this” before, and our intuition, our application of topical relationships to emergent situations, guides our reactions to these things.⁵⁸ Intuition, I propose, is the implications of ethical stances toward objects different from but associated with objects at hand. Intuition may have further application to a discussion of certain conceptual palimpsests in memory, residual ethical stances which have or can condition path-dependent responses, and form the fields for rhetorical interactions.

Spinoza posits memory is primary to our consciousness and communication, that “we can do nothing from a decision of the mind unless we recollect it. For example, we cannot speak a word unless we recollect it” (157). Our repertoire of concepts and vocabulary is, of course, contingent on our previous experience, and memory “is nothing other than a certain connection of ideas involving the nature of things which are outside the human body—a connection which is in the mind according to the order and connection of the affections of the human body” (130-31). Spinoza explains that individuals will associate various objects as part of a concept, for example, horse tracks might cause a soldier to think of a horse and also a horseman, and a farmer to think of a

horse and also a plow. (This example is not dissimilar to how Yarbrough explains ethical stances by a hunter and a farmer toward a field.) Spinoza wonders how it is that “it is not in the free power of the mind to either recollect a thing or forget it” (157-58). His question is similar to one Nietzsche raises: “But that which is experienced lives on ‘in the memory’; I cannot help it if it ‘comes back,’ the will is inactive in this case as in the coming of any thought. Something happens of which I become conscious: now something similar comes—who called it? roused it?” (274). Why, both men ask, can we not control memory as we control our logical reasoning? Yarbrough offers material from which we might infer answers to this question in his account of *topoi* and ethical stance:

Our actions are responses to an endless complexity of purposes, each with its own topical schemes. Since the schemes themselves are not necessarily related to one another, our lives would be incomprehensible and completely incoherent were it not that *all* our topical ends resolve into the single, final end of *stasis*. Because of this complexity ... we relate *topoi* to situations guided by what we may call the “Principle of the Conservation of Meaning,” although it is more a pragmatically determined habit than a “principle.” We tend to keep to a minimum the kinds of connections we make between and among *topoi* ... and we create as few new *topoi* as possible, preferring instead to borrow topics from other situations and “make do” whenever possible. (*Inventive Intercourse* 174)

Spinoza describes what Yarbrough reminds us are Aristotelian *topoi*, the collected, associated relationships that categorize the world, and the attitudes we have toward those relationships. We do not seem to “forget” or “recollect” freely because our brains synaptically bond our impressions in terms of our attitudes toward them. In order to change how (or whether) we forget or recollect objects, we must change our attitudes toward them, a process we tend to avoid unless circumstances demand. Our attitudes toward things are, says Yarbrough, ethical stances, “a class of potential ways of

interrelating” with objects that determine how we interact with them (*Inventive Intercourse* 141). Change the ethical stance, says Yarbrough, and you change your potential range of interaction. To return to Spinoza’s example, should a farmer become a soldier or a soldier a farmer, their associations with horse tracks will perhaps change to include a horseman for the former, a plow for the latter.

However, the change in ethical stance does not erase the previously held stance. It extends and alters but does not replace it. In Spinoza’s example, such an extension is not at all difficult to reconcile. But often changes in ethical relations require a rejection of previously held relations. For example, over time, many came to accept viruses rather than witchcraft as the cause for many common diseases. Yet, though the previous ethical stance toward the cause of these diseases might be rejected, it remains in the memory as a sort of palimpsest. What effects do these palimpsests have on evolving *topoi*? Do they create conceptual channels that alter the course of memory acts, like silt deposits in a river? If such an image is apt, might we be capable of turning our attention to these palimpsests and shoveling them aside? Might that implicitly be part of the intent of the “talking cure” in psychoanalysis? These questions will be important to further consideration of memory and discourse. I anticipate their relevance in our evolving choices of language, our tendencies to resist some and accept other topical connections, our stance toward remembering a previously held stance, and our mythological, metaphysical conceptual beliefs like “culture” or “religion.” And further, these questions are relevant in terms of what we mean by revision, in writing or any other context.

Let me return to Yarbrough's notion of the "Principle of the Conservation of Meaning." Memory is conservative, in the sense that it aims at coherence via narrative. In her study of nostalgia and memory, Janelle L. Wilson explains that George Herbert Mead's "microsociological view of collective memory emphasizes the way in which reconstructions of the past are used in interaction for various purposes in creating meaning and maintaining continuity" (46-7). Thus, as Mead explains, "pasts," i.e. memories, "are in great part thought constructs of what the present by its nature involves, into which very slight material of memory imagery is fitted" (qtd. in Wilson 47). Here "memory imagery" seems to refer to something similar to the "impressions" of the Stoics and Locke, the images that memory as the active faculty of interpretation and arrangement narrates. Memory constantly revises its narration as the present emerges and offers problems that demand such revision.

Memory can be an innovative act, as Yarbrough argues in *Inventive Intercourse*, if the person remembering has an innovative purpose. But memory is also inherently a conservative act because it is narrative. Memory must by its very temporality be in the form of a narrative, have an arbitrary beginning and end, and therefore lead toward stasis, coherence.⁵⁹ Yet there is no beginning and end really, just passage from one emergent event to another.

A neurological, interactionist conception of rhetorical memory avoids the disinterested, isolated metaphor of a storehouse and maintains memory as the constant, active, social interpretation and reinterpretation of previously emergent events. It also accounts for and outlines the effects of the essentially conservative nature of memory's

narrative constraints, ethical stances, and what we call intuition, all of which are particularly important to interpretation. In the next chapter, I argue rhetorical memory is the articulation of an ethical stance, that is, a set of attitudes, toward its object, a stance constantly revised. I call this articulation “ethical grounding,” and further argue that, like the modes of persuasion, the canons of rhetoric should be seen as interdependent phases of unitary acts of composition, temporally activated by rhetorical memory.

CHAPTER V

ETHICAL GROUNDING AND THE PHASES OF COMPOSITION

The best way to predict the future is to invent it.
--The Well-Manicured Man (John Neville), *The X-Files*

In the past three chapters, I have tried to apply neurological support for a Davidsonian conception of language as a causal, future-oriented organ for making sense of the world. Now I will start to approach the questions most relevant to teachers of rhetoric and composition: what does this mean to how we should teach discourse, especially writing? What is the pedagogy of memory? Heading into those questions, I want to bring back the classical notion of ethos as good or credible character, particularly in pedagogical terms, to the Yarbroughian interactionist conception of ethos. Quintilian, for example, saw the purpose of rhetorical education as producing “good men who speak well,” and if we retain something of that sentiment, we can update to “good people who speak well.” Yarbrough’s conception of ethical relationships doesn’t make evaluative analyses of those relationships; he’s describing the relationships we assume and accept in given discursive contexts. Pedagogy, however, necessarily values some ethics over others. Academies, from ancient Greece and Rome to the present, train students to learn and to value certain ethical stances. Speaking well, we hope, does not preclude but rather empowers being “good.” I do not suggest that we teach virtue, by any means, but we do emphasize certain ethical principles, such as valuing diversity (in every sense), respecting other perspectives, committing to civic engagement, and fostering leadership. We can

debate what or whether these principles mean, but it should not be controversial to remark that university education in general purports to hold them dear.

I want then to suggest an approach to rhetorical instruction that values individual agency in respectful interaction with others and also fosters a kind of wisdom, which I define as an adaptability to emerging and predicted discursive contexts. This is a connection of ethos in the classical sense to the ethical, both Yarbrough's sense of the word, and the more common connotation of ethics as a set of moral principles. I will address the specific moral principles emphasized by university education in the concluding chapter. First, I want to address rhetorical memory and its role in the canons of rhetoric, particularly in terms of writing. Understanding memory neurologically and interactionally as ethical grounding absorbs rhetorical memory into an expanded notion of ethos, which itself becomes a theorized rhetorical memory.⁶⁰

Synaptic mapping renders concrete the heretofore metaphorical spatiality of *topoi* and memory palaces. If we understand that rhetoric is the means by which enact and revise ethical stances, that is, to activate and extend synaptic maps through discourse, we have to next consider how and why we determine starting points from which to discourse. Interlocutors have intentions—purposes for discoursing—and in order to successfully predict how our intended meanings will align with others', we engage in what I call ethical grounding. Rhetorical memory is how we make situational predictions based on past successes and failures of communication, and subsequently determine relevant ethical stances in a given situation.

All this might just be to say that rhetoric is the ability to find the available means of persuasion. From our experiences we have interpreted the world, and we use those interpretations to predict how others have used their experiences to interpret the world, in order to further predict what communicative strategies will be most effective to achieve our intended effects. This is simply a matter of remembering previous experience for the purposes of inventing, arranging, stylizing, and delivering discourse in an emerging present or anticipated future. In classical rhetoric, natural memory referred to how memory works, and artificial memory to how we work it, a methodical remembering, in other words. The relationship of natural and artificial memory is very similar to distributed cognition conceptions of brain and mind. The former enables the latter, and the latter “works” the former, and the consequences of that work are, I think, best described by some aspects of Donald Davidson’s conception of “supervenience,” which I will discuss later in this chapter in terms of ethical grounding.

Rhetorical memory is a methodical approach—not a method—with which we identify relevant ethical stances in an emerging or predicted discursive interaction. It is, in other words, how we work our natural memory. Our minds direct our brains’ memories to determine situational discourse expectations, i.e., discover the available means of persuasion in a predicted rhetorical context, such as preparing a speech or writing a text for delivery to a future audience. Rhetorical memory, then, is the methodical strategies employed by rhetors to determine the ethical center or fields of communication, the assumed values and truths of the interlocutors. This view of memory, as I argued in Chapter Four, reveals an inextricable relationship between memory and ethos, a

relationship in which *ethoi* are the remembered topically related stances activated in discursive interaction. I further argue, following Yarbrough's contention that ethos, pathos, and logos are inseparable and interdependent phases of discourse, that the canons of rhetoric are inseparable and interdependent phases of composition. And, following my argument in Chapter Four that ethos must temporally activate pathos and logos, I argue that rhetorical memory temporally activates and orients invention, arrangement, style, and delivery in acts of composition.

Ethical grounding is not a new approach to discourse, but a way of better understanding what we already do when we discourse. Ultimately, this is a description of how rhetorical agency works, and how rhetorical pedagogy can reunite the canons. Ethical grounding is the means by which rhetorical memory serves as the custodian to the canons, for it orients a rhetor for discoursing, in speech, gesture, or writing. As I stated in the Introduction, ethical grounding frames a rhetorical situation and orients a rhetor's discourse toward her intended outcomes by considering the timing, contexts, and cultural assumptions in play when a communication act takes place. For a rough and simple example, if I choose to discuss my support of marriage equality with someone in my home state of North Carolina whom I don't know well, my very use of the phrase "marriage equality" establishes grounds of discourse that foregrounds individual rights rather than normative or traditional "morals" in a state that has recently passed a constitutional amendment banning "gay marriage." That choice then conditions choices and adjustments to my interlocutors' choices I will make in the rest of the conversation. I am attempting to activate ethical stances toward concepts of individual freedoms and

fairness, and avoid entrenched stances of religious or moral objections against homosexuality. The communicative choices I make in order to achieve at least one of my intended goals—to make a persuasive case for marriage equality—include consideration of context (a political debate or a coffeehouse chat?), audience disposition, diction and perhaps even dialect and accent, and so on. Through ethical grounding, we predict possible audience resistance based on questions of *kairos*, *decorum* or *prepon*, time and place, and orient both ourselves and our interlocutors in a field of inquiry most conducive to achieving our intended results.

As an asynchronous (usually)⁶¹ communication act, in which interlocutors occupy separate spaces and times, writing requires more deliberate preparation than improvised conversation, and this is where applications of the rhetorical canons are most useful. We might see writing as an abstraction of synaptic mapping, but it might be more accurate to think of it as an extended process of synaptic mapping, acts of artificial memory working the natural. Writing enables us to link ideas at a level of nuance and complexity impossible for speech due to the limits of our working memory, the amount of information we can hold in our attention at any one time. Writing externalizes concepts as writers attempt to interpret them, and indicate writers' interpretations that readers can consider. Writing, then, is memorialized language that we use to learn and to communicate our interpretations of the world. The memorialized spatiality of writing as an artifact that we read stimulates new synaptic connections as we read and, usually, we can reasonably determine what the writer intended to mean. Writing, as Nedra Reynolds points out, "is spatial itself, or we cannot very well conceive of writing in ways other than

spatial” (“Composition’s Imagined Geographies” 14).⁶² This spatiality tracks synaptic mapping at a sentence-to-sentence, paragraph-to-paragraph, chapter-to-chapter level, and enables readers to abstract and direct the mapping process that’s going on inside their own brains.⁶³ Rhetorical memory establishes the ethical grounds from which questions of invention, arrangement, style, and delivery stem.

So, rhetorical memory, as custodian of the canons, orients communicative strategies in situationally appropriate ways, or more simply, rhetorical memory ethically grounds discourse to *kairos* and *prepon*. This is a very complicated process, though one for which our brains are uniquely suited. To explain, let me turn to Donald Davidson’s take on supervenience. As he sees it, “supervenience might be taken to mean that there cannot be two events alike in all physical respects but differing in some mental respects, or that an object cannot alter in some mental respects without altering in some physical respects” (*Essays on Actions and Events* 214). As Yarbrough interprets Davidson, this means that mental interactions are dependent upon physical interactions.⁶⁴ Further, however, Davidson’s doctrine of anomalous monism insists that “there are no strict deterministic laws on the basis of which mental events can be predicted and explained” (*Essays on Actions and Events* 208). Though there are no deterministic laws of mental activity (other than the ecological operations of the brain that enable the activity), there are laws of causality, as my discussion of neurological memory explains. Our memories, as associative synaptic maps, operate causally, and our formation of memories—learning—changes the physical makeup of the brain, which subsequently conditions our subsequent mental activity. Language, as the organ of perception, and particularly

writing, as a spatial abstraction of that organ, allows us agency in directing how that conditioning works. There is no strict law or syllogistic method of prediction, but we can make reasonably effective assumptions through enthymemic reasoning. This is a complicated way of describing education and learning.

Writing, as I said above, is a special case of language use because of its spatio-temporal separation of interlocutors. Donald Davidson suggests, in “Locating Literary Language,” that literature “replaces the triangle of speaker-hearer-world with the triangle of writer-reader-tradition” (296). I would adjust Davidson’s formulation to writer-reader-shared common background in order to apply to any written text; aesthetic traditions are only one part of a shared common background. Ethical grounding orients writers’ consideration of that shared common background, and helps writers plot ways to craft their discourse to be most effective.

By way of preparation to discuss rhetorical memory as custodian to the canons, let me distinguish ethical grounding from Platonic anamnesis. Platonic memory, specifically anamnesis, underlies or informs the thought of everyone from Aristotle to Chomsky (Rousseau 348).⁶⁵ I am no exception, because Platonic anamnesis underlies my conception of ethical grounding, as well. (See Appendix A for a more thorough discussion of this topic, as well as of Plato’s alleged mistrust of writing.) Moreover, assuming this dissertation passes muster, I will be a professor of rhetoric and composition, and teach college writing courses. It is therefore important to me to explain Platonic anamnesis both to establish its influence on ethical grounding and to distinguish the two, primarily in basing ethical grounding in cognitive neuroscience rather than

Platonic metaphysics. Furthermore, this distinction will help to outline how rhetorical memory works in the “forgetful” medium of writing and, subsequently in the literate and digital age, to any asynchronous communication.

R.E. Allen argues that Plato’s “theory of Anamnesis is a theory of inference, and it rests on the intensional [sic] relations which the Forms bear to one another” (167). The entirety of Plato’s philosophy rests on inferring relationships from particulars back to their Forms, through the process of recollection. Thus, in *Meno*, mathematics cannot be taught by memorizing formulas, tables, and rubrics. It must be inferred from relationships by recollection. For Plato, “Because the objects of knowledge are independent of the physical world, and ‘separate’ from it, they cannot be known through it” (168). Perfect equality, to use the example from *Phaedo*, cannot be perceived through sensory stimuli, but instead we must categorize things as sensible equals and unequals and from there infer the perfect Form of Equality. Even if we reject the Forms and the very idea of metaphysical, universal knowledge, which I do, we can still derive from Plato that inferring connections among objects and ideas reveals underlying ethical stances of the inferrer and her interlocutors. Plato assumed in order for us to infer anything that there must be some *a priori* universal knowledge. Instead, we can replace this *a priori* knowledge with *a priori* relationships that our brains are predisposed to recognize. Thus, the perceptual method is memory. The only universals are the same mental processes and innate recognition of relationships (*topoi*) that we all share; the way those processes and recognitions work is conditioned by genetics and social interaction.

Contrary to Plato, neuroscience reveals not that humans hold *a priori* knowledge that they have forgotten at birth, but that our brains “have innate predispositions to acquire...specific kinds of environmental information” (LeDoux, *Synaptic Self* 85). There is a universality to learning, and that universality is synaptic plasticity. Experience and thought change the makeup of our minds. We literally change our brains and minds, and by altering the environment, i.e. the context, of our interlocutors, we can motivate them to change theirs. So, to update *Meno* to neuroscience, the brain does have innate capacities that await experience for activation and alteration. But experience does not “stamp” itself on the brain. Rather, it helps “construct” synaptic maps. We interact with the environment, and our previously held memories condition our interaction with emerging stimuli. That interaction produces new, reinforces old, and revises perspectives, or attitudes. These perspectives are not just objective facts but ethical stances toward situational contexts which we project onto emerging presents that fit patterns we see. This constructivist position holds that structure in the neocortical synaptic maps comes from the environment apprehended by the senses (LeDoux, *Synaptic Self* 88). Structure is not *a priori*. Structure is a pattern projected from experience, and new experiences can and will change that structure.

Ethical grounding helps establish ethos as credibility by recalling past knowledge, demonstrating familiarity with and command of authoritative cultural wisdom. It is also a method of self-reflection, a consideration and critical evaluation of our ethical stances toward given objects. We explore the structures of our perception, and alter them as conditions demand. Orators and writers use rhetorical memory to ground their subjects in

the world. This way of looking at the canons is not a method, as current-traditional or process pedagogies are, but a methodical or systematic approach to discursive contexts. As the brain is universal mechanisms that enable unique conscious experiences, so to is the canons of rhetoric universal approaches that produce unique compositions. Ethical grounding identifies conventions and predicts audience expectations, and foregrounds the question, what is at stake to whom? in terms of the rhetor's intentions. The future-oriented nature of our synaptic mapping orients discourse to questions and answers as to purposes, and those purposes always aim for perceptual stasis—understanding the world in such a way as to render it predictable.⁶⁶ Our synaptic mapping, then, always conditions us toward a problematological rhetorical approach.

Ethical Grounding and the Canons

To communicate by any means is to replicate in another person whatever we're consciously attentive of that we want another to be attentive of, in the way we're attentive of it.⁶⁷ We approach communication methodically in order to achieve that goal.

Identifying ethical stances with which we enter discourse conditions our views of what communicative options we have. Our methods of identifying these ethical stances generally include such pedagogical standbys as research and reflection, which help us predict what we need to communicate in order to achieve our intended effects. Memory's synaptic maps are the *places* within and across which we analyze concepts, rearranging and rethinking them to decide what to say to others. Novelty, that is, new perspectives, occurs in inventive arrangements and stylizations of memories. When memory constructs and interprets past moments, it creates space for novelty to arise. Thus, known objects

can reveal unknown objects. Giambattista Vico specifies the process when he divides memory into three parts: “memory when it remembers things, imagination when it alters or imitates them, and invention when it gives them a new turn or puts them into proper arrangement and relationship” (313-4). This perspective is particularly useful when thinking about writing.

Plato, of course, did not address the canons of rhetoric, because they had not been “created” as such. Aristotle, who was much more systematic than his teacher, influenced the Roman rhetoricians who followed, and the Romans developed his brief discussions of stages of composition into the five canons—invention, arrangement, style, memory, and delivery.⁶⁸ Aristotle spent the bulk of Books I and II of *Rhetoric* on invention, and many classical and modern rhetoricians alike deduced it to be the most important aspect of composing. As I discussed in Chapter Two, the advent of written discourse highlighted style, and as oral discourse forms became less and less primary, memory and delivery were largely ignored. Memory, mostly supposed to be mnemonic techniques for delivering speeches, has been particularly degraded. Yet, ironically, as Mary Carruthers has illustrated, ancient and medieval rhetoricians considered memory “the basis for the rest. *Memoria* was also an integral part of the virtue of prudence, that which makes moral judgment possible. ... [I]n trained memory ... one built character, judgment, citizenship, and piety” (*Craft of Thought* 9). Prudence, then, helps us establish our ethos, especially as we adjust to different audiences’ ideas about what is prudent in a given situation.

In Quintilian’s system, writing and speaking instruction were designed to prepare students to be “capable of public improvisation under any circumstances,” meaning in

general extemporaneous oration (Murphy 20). James J. Murphy argues “by analogy the writing process is almost the same, with physical hand-writing (*orthographia*) replacing oral delivery as the final step” (27). Invention as a method of discovering ideas through topics or commonplaces involves exploring a “mental pathway which can lead the mind to find a useful line of argument” (Murphy 27). The hold of the “order” of the canons, Murphy speculates, is the “logicality of the process description, the theory that idea collection precedes arrangement which precedes style and memory” (28). But this can only be true if we think of the canons as discrete, and if we think of memory as memorization. Moreover, we can only think this if we accept the direct analogy of improvised oral discourse and prepared written discourse. Most writing—whether as prepared speech or text—is not synchronous public improvisation, or at least, it wasn’t before the Internet, and we don’t follow the “order” of the canons as described by Murphy. What we actually do is use rhetorical memory to help us imagine and prudently (we think) write to our projected audience. That is how we make and evaluate the “mental pathways” of Invention. The classical functions of rhetorical memory, in other words, can be understood as establishing appropriate *ethoi*, ethical stances, for successful composition. More importantly, how do we create these pathways, and how do we determine they are useful? This question, really, is at the heart of education in general, but writing instruction in general, for reasons I’ll discuss later in terms of Davidsonian supervenience.

Yarbrough argues that, as a consequence of understanding the appeals as phases of discourse, there is no such thing as “composition,” because “Discourse is not some

thing that can be broken into parts and put together again like a car. Discourse is an intervention in an ongoing, complex, but normally habitual process. Writing is more like driving a car than building one” (“Modes of Persuasion” 509). We do not invent, then arrange, then stylize, then deliver, our writing in a recursive process. But we do invent, arrange, stylize, and deliver, and just as “driving” is a unitary act that involves many things—surveying the road, steering, accelerating, braking, checking mirrors, and so forth—“writing” involves these canons, all happening at once. As with Yarbrough’s argument that “discourse is a unitary process that can be analyzed in (at least) three phases,” I suggest that we should see composing is a unitary act that can be analyzed in (at least) five canons (“Modes” 491).

Canons are most often used in process pedagogies. However, as Colin Gifford Brooks writes, “Because the canons have been adapted to process pedagogy...they have been truncated and sapped of much of their explanatory and productive power” (xvii). Rhetorical memory’s role as ethical grounding for composition is a post-process perspective: it is not a “codifiable or generalizable process” (Kent 1). It also fulfills what Thomas Kent identifies as three assumptions post-process theorists have about writing: “(1) writing is public; (2) writing is interpretive; and (3) writing is situated” (ibid.). Writing is interaction with the world and with other language users interacting with the world that tries to “make sense” of the world from a specific context. Bringing the canons into this post-process perspective does not create a generalizable methodology for writing, but an analyzable and deliberate approach to writing. Ironically, perhaps, this post-process perspective has much in common with classical rhetoric. As Sharon

Crowley notes, and I cite in my discussion of Platonic anamnesis in Appendix A, classical rhetoricians assumed composition in a specific context situated to a specific purpose. Writing for the classical rhetoricians was public, interpretive, and situated as well, and again, rhetorical memory grounds the canons in specific public, interpretive situations.

Again, contextual considerations recognize appropriate and effective writing for the historical moment in which the writer exists. The writer's projection of her audience is vital, and a sophisticated imagination not unlike children's interaction with imaginary friends, as Gopnik has demonstrated. And, again, this projection is rooted in classical rhetorical principles. Theresa J. Enos has argued, "The concept of audience in new rhetorical approaches is classical in that consideration of audience cannot be separated from purpose; thus it is considered at the very beginning of the thinking and writing process. ... But instead of analyzing audience in the primary stages of forming the discourse, the writer creates the audience out of potentially shared perceptions of reality" (275). She notes, further, that "The shift in rhetoric from persuasion to identification elevates ethos over pathos and logos even more than Aristotle did. Indeed, ethos subsumes both pathos and logos" (ibid.). Again, this is only true if we consider the appeals separate, discrete units, instead of phases of a unitary act in which the initiation of that act is something we can analyze as ethos. Furthermore, persuasion and identification need not be mutually exclusive, but inseparable aspects of communicative intentionality. After all, if we seek a Burkean unity of belief about reality via identification, well, it's going to take some persuasiveness. The point Enos shares with

my perspective on ethical grounding is “potentially shared perceptions of reality,” which require a writer to think carefully about her beliefs and the possible beliefs of her interlocutors. It is through that sort of deliberation that we make memorable writing.

As we start to think pedagogically, we can illustrate ethical grounding and the canons’ unitary at-onceness by examining aspects of rhetorical memory in active discourse. Rhetorical memory aligns ethical stances appropriate to successful discourse, and conditions what we recognize as possible and desirable in Invention, Arrangement, Style, and Delivery. As ethical stances serve as the field of cognition and apperception, rhetorical memory serves as the field of the canons. In what follows, I sketch ways in which ethical grounding orients the other four canons. Of course, since it is my contention that the canons are phases of unitary acts composition, the categories run into and among each other. Thus, though we may refer to an act of writing as a process, it is not in the sense of process pedagogy, but rather like the process of driving a car. It is analyzable as different actions, but in an at-onceness of its occasion.

Invention

Rhetorical memory, the custodian or *thesaurus* (treasure-house) of invention, has traditionally been subordinated, as have all the canons, to Invention. Aristotle, Cicero, and subsequent textbook writers all the way up to Corbett, and Crowley and Hawhee, give more attention to Invention than the other canons. I give it the least here, because conceiving the canons as phases of a unitary process foregrounds first questions of ethical grounding, foremost perhaps, “why am I discoursing?” Thinking in this way emphasizes not a separation between “what” I am saying and “how” I am saying it. Starting with

“why” erases the illusory distinction. We determine a subject of inquiry, we research and reflect on how the subject has been discoursed about, and we develop our discourse in kind as we frame the issue, work to achieve stasis.

Invention, notes Joshua Foer, “is a process of inventorying,” memory and creativity being inseparable, for memory is future-oriented interpretation of past experience (203). Rhetorical memory’s associative qualities make connections—survey topical relationships—that orient what we wish to say, using our treasure-house of language, in the rhetorical moment. That is to say, we use our artificial memory to work our natural memory as we prepare our discourse. Quintilian laid out the fundamental heuristic, and it is, I think, clearly ethical grounding that orients the canons. He writes that rhetors should think about “what there is to say; before whom, in whose defense, against whom, at what time and place, under what circumstances; what is the popular opinion on the subject; and what the prepossessions of the judge [or audience] are likely to be; and finally of what we should express our deprecation or desire” (IV i.52-53). Ethical grounding does not just establish the possibilities of what might be said, as though “what” could be stated in a contextual vacuum. Ethical grounding does not separate the “what” from the impetus for discoursing and the conventions, or decorum, expected by potential audiences, because all of those considerations are part of what is at stake.

Arrangement

The myth of Simonides shows not just the associative quality of memory, but the three-dimensional spatiality of memory. Referring to the corpses in the rubble whom

Simonides is identifying, Arndt Niebisch writes, “The bodies themselves do not carry meaning, only space functions as a virtual matrix for relating every anonymous marker to its name” (325). He continues, “Writing is also such an art of memory that enables us to store and retrieve information based on a spatial system. ... Writing as well as mnemonics constitutes ‘a data architecture’ for organizing information in a multi-dimensional field” (333). Sentence, paragraph, page; and we should not think of this spatiality in the old metaphor of memory as a container or receptacle. Rather it is a map of associations that stimulate our memories to recollect, revise, and extend perceptions and interpretations.

The mnemonic system, as outlined by Quintilian, involves designing a house, with a large number of rooms, and associating the rooms and their contents with ideas or parts of a speech (XI.ii.17-25). This is but a metaphor for synaptic mapping. This system counseled orators to associate the parts of their speech with the various locations of the house, and move from room to room in their imagination as they delivered the speech from memory. The system is a way for orators to strengthen connections in their minds. In writing, the spatial metaphor of a building translates to the reader in terms of spatially defined sequences: headings, topic sentences, the placement of clauses in sentences, and other concerns both of Arrangement and of Style. Now we can think of these concepts not as tools for “memorizing,” but as simple ways of guiding readers and keeping their attention.

The mnemonic function of memory, moreover, manifests itself in the constant negotiation of outlining. Writers imagine the arrangement of their material, and then

begin writing in such a way that their work has the optimal chance to be effective.

Further, the spatial metaphor—which is not really a metaphor, we understand now—of mnemonics is also a consideration of timing, or *kairos*. Writers consider the sequential arrangement of the writing, and anticipate its potential impact, based on their understanding of decorum, including musical metaphors like “rhythm,” the pace with which we “walk through the house.” For writers, consideration of *kairos* post-Cicero is “closely associated with propriety or decorum. It becomes a principle of adaptation and accommodation to convention, expectation, predictability” (Miller xiii). The kairotic principle is, then, also a principle of style, in terms of stylistic conventions and rhythmic anticipation of the reader. When we think of the spatial properties of synapses, we can think of decorum and Invention in terms of social conditioning. When I say 9/11, the most closely associated concepts that spring to mind are terrorism, patriotism, war, fear, anger, “why do they hate us?” Then, as I reflect on the concept, I move to synaptic aggregates—concepts—still closely associated but not as strongly or immediately connected, like historical relationships, economic injustices, religious tensions, Charlie Wilson, *Rambo III*, and so on. What occurs to me first, second, third? How can I make connections in my writing that demonstrate the relationships among all these concepts? What research do I need to make these connections?

Importantly, the temporal order of experience preconditions cognition. That is to say, Memory orients Arrangement to establish relevant *ethoi* and condition the affective and cognitive apperception, preparing us to interpret what is happening, or what we read. One of the most common “mistakes” of student writers, for example, is neglecting to tell

readers what they need to know—what should be in their immediate short term memory—before they need to know it in order to understand what they are reading. This is crucial to readers and writers who are more predisposed to skim and make quick, unreflective judgments. Rhetorical memory’s investigative and deliberative functions foreground the question, “what do I need to know in order to have a view?” Again, the spatial metaphor of “view” is not so metaphorical as we consider synaptic maps.

The exteriorization of memory has been profoundly expanded by digital media, which offers “mosaic rather than linear” access to information in multitudinous forms of delivery (Mahoney 14). Questions of *kairos* in the era of YouTube, and the connections one makes between and among vast amounts of available information, are simultaneously questions of Arrangement and Style, for they are questions of what kind, how much, and in what order we can process data. In the age of the Internet, even more so than in the age of literacy, these questions lead to consideration of how to make information comprehensible and memorable.

Style

S. Michael Halloran suggests that, far from constraining us, our environments provide us with shared tools with which to articulate our identities via the canon of Style. The conditioning of our environment sets up expectations of propriety, or appropriateness, another way of referencing decorum. Halloran emphasizes the dual meaning of the word “appropriate,” which first “suggests a complacent acceptance of conventional definitions of relationships and situations. To appropriate something, by contrast, is to seize it and make it one’s own, to establish by fiat new relationships and

situations” (“On Making Choices” 369). The clear implication is that we can choose to observe, reject, or alter propriety, as long as we first understand what it is in a given situation. Rhetorical memory involves, finally, psychology, interpreting propriety in a given situation, and predicting reactions interlocutors might have, based on what we imagine their interpretation of propriety is.

The interpretation of sensory data into memory, narration, operates primarily on an unconscious level, and constitutes our psychological stance toward any given thing. This is a complex and under-researched area of memory, but one that informs Kenneth Burke’s identification. To identify and to identify with are functions of our analysis of the properties of a thing (Burke 24). That analysis, occurring at an unconscious level, is both intuitive and cognitive. Our stance toward a thing is our identification of its properties in terms of historical and cultural contexts. For example, William Reddy has studied ways in which social groups create emotional codes, another word for schemas or *topoi*, that we habitually accept as appropriate. We learn we are expected to feel a certain way, and this memory informs our perceptions of both ourselves and others. Consider the code of chivalry, an idealistic collection of traditions including gallantry and courtly love, which today remains influential on our behaviors and perceptions of others’ behaviors. Admiration of stoicism, for another example, developed from the Renaissance all the way to John Wayne.⁶⁹ In this sort of mythological social conditioning, exterior and interior memory interact, and rhetorical memory is the ethical activity of identification and research.

All of these expectations ethically ground Stylistic concerns. We think in terms of dialect, whether colloquial, professional, or academic (aka, “correct,” standard English). We make reader-centered considerations of diction, word choice, grammatical arrangement, and musical terms like tone, voice, flow, and rhythm. Rhetorical memory also serves as we choose reference points, be they culturally specific, like a Miley Cyrus reference in an essay on sexism in the media, or “universal” experiences like sadness over the death of our first pet in an essay on animal cruelty in the pharmaceutical industry.

Delivery

Memorable writing offers striking imagery, fresh and interesting ideas, and is delivered in media that make sense to an audience. In order to make sense, the imagery must account for the contextual situation, which is a function of memory’s capacity for “making memorable.” Invention and Arrangement depend entirely upon memory’s identification of what an audience will react to and how. This, too, is a locus for stylistic play, and increasingly importantly, methods and contexts of Delivery.

Kathleen Welch acknowledges that the canons, especially Memory and Delivery, are tied to contemporary culture’s electronic media, which now means both screen and web. She argues in order for students to be empowered as they navigate these media, they must understand the role of memory and delivery.⁷⁰ Key to memory’s role in delivery is attention, which guides (and restricts) the navigation of internal and external data, e.g. reading and interpreting. In the 2007 issue of *Profession*, N. Katherine Hayles identifies a generational shift in cognitive styles from deep to hyper attention:

Deep attention, the cognitive style traditionally associated with the humanities, is characterized by concentrating on a single object for long periods (say, a novel by Dickens), ignoring outside stimuli while so engaged preferring a single information stream, and having a high tolerance for long focus times. Hyper attention is characterized by switching focus rapidly among different tasks, preferring multiple information streams, seeking a high level of stimulation, and having a low tolerance for boredom. (187)

As teachers, I think we're all familiar with hyper attention styles, though I don't know that I agree there is a generational predisposition toward it. Nevertheless, both attention styles have advantages and disadvantages. Deep attention emphasizes consideration, focus, and reflection, but can lead to habitual ruts. Hyper attention emphasizes synthesis, wide-ranging sources of information, and novel thinking, but can lead to skimming, skimping, and quick judgments. It also, as Mark Bauerlein laments, leads to a tendency only to pursue information that holds personal interest, rather than to engage in work that requires discipline and focus.⁷¹ New media, the delivery methods of which condition both cognitive styles but favor hyper-attention, promises and delivers access, but overwhelming ourselves with information almost guarantees a certain degree of self-imposed limitation. Even in hyper-attention we stake out habits of usage, and stick with those habits. Rhetorical memory's associative and subjective qualities ground rhetors with questions of how to guide readers' attention through their Delivery.

Rhetorical memory also considers ethical stances audiences may have toward mediums of Delivery. What constitutes authority in different mediums is an important question, one that Richard Nixon and his staff recognized after the first televised presidential debate in 1960. For a more recent example, do academics find the authority of their discourse compromised in the blogosphere? If so, how, and what Delivery

adjustments should be made? Moreover, rhetorical memory centers writers on questions of disciplinary conventions, a province of both Style and Delivery. How research essays are formatted and citations produced, how often points are reiterated, and other questions like these are, again, questions of ethical grounding. To whom are we writing, in what medium, what would our audience likely expect, and what might they find interesting or surprising?

Teaching Writing or, Pedagogies of Discursive Interaction

Rhetorical memory encourages questions of value systems, believability, emotional associations, and so on. We recognize how we categorize *before* having done the intellectual work—research—required to categorize ethically, and can ask specific, effective research questions in order to analyze and revise our categorizations. This is especially pertinent in the Google age, where search algorithms are designed to tailor results to reinforce your preferences and worldview, rather than to challenge or complicate it.⁷²

Memory's flexibility accounts for our capacity to be conditioned by our environment and also for the metacognitive resistance necessary for individuals to critically assess and revise our conditioning. Moreover, rhetoric's multiple uses for memory may be its greatest strength, for "[t]o a large degree, the art of rhetoric *is* the art of finding what those historically involved in the kind of problems at stake habitually, if not consciously and thematically, already believe" (Yarbrough, *Inventive Intercourse* 43). Memory's rhetorical functions offer us the possibility to examine, and alter, the physical structures by which our ethical, emotional, and logical social relations are developed.

The view of the canons I am outlining attempts at a kind of problematological approach to rhetoric, one based on questioning rather than answering, in which, as Michel Meyer puts it, “truth lies in the way in which the problematic is treated than the fashion in which it is solved, if ever” (7). As Meyer conceives it, problematology brings together various approaches and methodologies into “one overall conception of thinking as it actually takes place,” without favoring a particular ontology or *a priori* norms (4). His is an informal approach to logic, reason, and argumentation, which positions rhetoric as dealing “with the problematic and the questionable ... rhetoric exhibits the questions and puts forth arguments in favor of or against the chosen solution” (155). A post-process perspective on the canons emphasizes a question-based discourse, one that eschews a replicable process for a methodical approach to composition.

Thus far, I have suggested that many of the reasons rhetorical memory remains neglected in contemporary rhetoric and composition derive from the historical development of the field(s), first rhetoric, and then subsequently composition, through textbook pedagogies influenced by Ramist tradition. I have also argued neuroscience provides us with a vocabulary and, in context with principles of classical rhetoric and interactionist philosophy, a perspective with which to describe rhetorical memory in practical terms, revealing rhetors’ agency in grounding their subjects in the world. I then revisited classical functions of rhetorical memory in order to understand exactly how memory determines relevant *ethoi* in given situations. In context of ethical grounding, we can see the canons of rhetoric as phases of a unitary act of preparing discourse, with rhetorical memory as the temporally precedent field that grounds the other canons in a

specific rhetorical situation. In the concluding chapter, I argue that my conception of rhetorical memory supports Communicating in the Disciplines and Living Learning Community pedagogies.

CHAPTER VI

PEDAGOGICAL IMPLICATIONS

So in the future, the sister of the past, I may see myself as I sit here now but by reflection from that which I then shall be.

--Stephen Dedalus, in James Joyce's *Ulysses*

In 2000, Brockton High School, located just south of Boston, made radical curricular changes in order to combat their massive dropout rates (roughly a third of their 4,000 students were leaving school without graduating).⁷³ The school's improvement plan emphasized constant and regular writing assignments in every course, from physical education to science to math to English to social studies.⁷⁴ The school's state test scores rose steadily, and remain high today. Strangely, studies of Brockton's success conclude not that Writing in the Disciplines (WID)—which is essentially what the teachers have implemented—is successful, but instead that large class sizes do not matter. It's a bizarre takeaway from a program that hinges so obviously on WID pedagogy.

The New York Times reported in 2010 that Brockton's success was “surprising” because it was “an exception to what has become received wisdom in many educational circles – that small is almost always better” (Dillon par. 4). The *Times* went on to describe in detail the new writing requirements, noting Brockton's plan deemed

...reading, writing, speaking, and reasoning...the most important skills to teach. They set out to recruit every educator in the building—not just English, but math, science, even guidance counselors—to teach those skills to students. ...Several teachers dragged their feet. Michael Thomas...who led the physical education department at the time, recalled that several of his teachers told him, ‘This is gym;

we shouldn't have to teach writing.' Mr. Thomas said he replied, 'If you want to work at Brockton High, it's your job.' (par. 16, 19)

The philosophical and curricular shift is clearly responsible for the students' academic improvement, but *The Times* focuses on new accountability policies for teachers and assessment methodologies, and marvels that a large, diverse school can achieve these results. It took time and training, but once the teachers bought in to the change, they saw students improving in their command of all their subjects. Bob Perkins, a math teacher, describes a writing assignment in his algebra class in which students have to explain how they solve a math problem in a short paper. Perkins concludes, it "takes longer than I expected, but it's not wasted time... They're learning math and they're learning to write" (par. 443). In truth, all the changes at Brockton mattered.

Brockton's teachers were given clear expectations, training, and assessment tools. Teachers and administrators worked to create a positive, encouraging atmosphere in the school that highlighted student achievements and pushed them to go to college. The diverse student body's interactions with one another contributed to students' learning and respecting each other's backgrounds. But no one seems to notice the importance of writing and speaking in the students' learning, not to mention *how* the students are interacting within the large high school. Furthermore, the full time employee teacher to student ratio is 16-to-1, which means that although Brockton is a large school, it has committed to small class sizes.⁷⁵ I think these two points, writing and teacher-student contact, are the most important, particularly in large secondary schools and universities. These are not (should not be?) revolutionary claims to make in some educational circles,

but I hope I am bringing them more support with the arguments I have made based on brain functions and interactionism.

In the previous chapters, I have advanced four interrelated arguments. (1) In order to develop theories of ourselves as responsible “agents” who use language with others to create the world in which we live, we must recognize that language is not representational but causal; (2) neurological studies of memory, specifically what we now know about synapses, suggest that common *topoi* are innate, and that special *topoi* are situational conceptions that constitute our ethical stances, which we revise in light of reflection and experiences; (3) rhetorical memory is a method of ethical grounding, conducted via reflection and research, by which we determine relevant *ethoi* for a given subject about which we wish to communicate at a given time in a given place; and (4) as a consequence of the previous arguments, we should see the canons of rhetoric as recursive phases of a unitary process we call “composition” when we prepare discourse for future audiences. This process, however, is not a particular process, applied similarly to every communication act. It is rather a context-dependent approach to discursive interaction.

I drew upon Stephen R. Yarbrough’s concept of the appeals as unitary phases of discourse, and argued that his conception of ethos as the set of relationships we take to be true in a given situation constitutes the shifting baseline or center from which we situate and form emotional and logical responses. My conception of ethical grounding means rhetorical memory serves as the field that activates and orients the work of the other canons as phases of composition, just as ethos activates pathos and logos. Understanding

language as causal, rather than representational, theorizes individuals as responsible agents who create and use language rather than as subjects constituted by a language that precedes them.

I offer now some support for two pedagogical conclusions: (1) universities should pursue Writing in the Disciplines/Communicating in the Disciplines (WID/CID) programs, and (2) universities should support Living Learning Communities. These two approaches incorporate the most successful aspects of Brockton's curricular reform, writing and speaking in every course, and interacting within a diverse student community.⁷⁶ These factors enable students simultaneously to critically evaluate "expert," or authoritative, discourse and to develop "expertise" in a variety of disciplines.

Communicating in the Disciplines

Susan McLeod distinguishes Writing in the Disciplines from Writing Across the Curriculum pedagogy as "writing to communicate," as opposed to "writing to learn," suggesting that WID is "reader based rather than writer based, [using] the formal language of a particular discourse community to communicate information" (153). I find that distinction a bit too neat, as writing in disciplinary discourse conventions is also writing to learn that discipline. Yarbrough offers a more nuanced distinction. Whereas Writing Across the Curriculum assumes writing is "one thing that can be applied everywhere, a moveable feast, as it were, Writing in the Disciplines assumes communicating in a discipline is the same as performing it."⁷⁷ I emphasize this conception of WID in terms of ethical grounding. Developing some level of expertise in a discipline better equips one to evaluate "expert" discourse in that discipline. E. Johanna

Hartelius suggests that ethos “redefines expertise as a combination of the expert’s knowledge and competence and her perceived trustworthiness and goodwill” (11).

Writers must discourse in such ways as audiences accept and validate their expertise, and, thus, both writers and audiences benefit from learning to communicate in and therefore develop some comprehension of the disciplines in which they discourse. Many programs expand “writing” to “communication,” referring to speaking, writing, and digital discursive interactions. I naturally adopt that approach and will throughout refer to CID.

Writing divorced from a subject, i.e. writing about writing, which is what many Composition pedagogies amount to, is just the recipe for forgetfulness that Plato feared. We learn what to do in writing, but not why. In fact, one of the primary disciplinary questions of Composition seems to be what the discipline *is*.⁷⁸ As Gerald Nelms summarizes, this question

gets to the heart of our problem in Composition: What is college composition instruction for? Here are some options:(1) To prepare student writers for writing in subsequent college courses;(2) To prepare student writers for writing in professions once they leave college;(3) To help students develop more sophisticated and independent thinking, the assumption being that the ability to produce a well-informed, organized text that informs and/or argues a thesis provides evidence of more sophisticated and independent thinking;(4) (Probably related to #3) To help students become ... more engaged, more mindful and thoughtful citizen[s] of the world.... one big confusion has been that idea that our teaching essay writing somehow means that we think students will be writing essays when they leave college. ...what's important are the processes that we teach, right? Not the genres of the products students produce, unless we are actually preparing students to write in that particular genre for the workplace we know they will want to enter upon leaving college. Or have I missed something? (“Re: enough with emphasizing writing already”)

I think he has missed something, and it is because of his commitment to writing instruction as generalizable processes that can be applied in any situation. As I argued in the previous chapter, an interactionist understanding of the canons, grounded in an understanding of basic neurological operations, can be a viable post-process approach to communication, but I would clarify here that such approaches do not occur in a vacuum.

Arthur N. Applebee proposes, “The traditions of knowledge-in-action in which we participate do not simply constrain us, but are open to analysis and change. Indeed, traditions remain vital only to the extent that they continue to address the present and the future as well as the past, providing satisfactory frameworks for addressing issues that concern us” (17). CID in my view ensures that writing is situated in and indicative of the world, that it is knowledge-in-action as opposed to knowledge-out-of-context. Writing about writing, on the other hand, is a universalized set of templates: templates of genre (writing in the modes, they say/I say; writing various imaginary documents from essays to memos); templates of Romantic isolated writers (what did you do last summer?, describe a childhood memory, what do you believe in?); templates of the academy (research papers, literature reviews, dissertations).

Yarbrough has argued that teaching a “how-to-write” course is as nonsensical as teaching a “how-to-live” course (*After Rhetoric* 213).⁷⁹ He asserts that such courses “teach forms and neglect objects of discourse” (*After Rhetoric* 217). In other words, rather than teach how we do or how we might discourse, we try to teach how *to* discourse, divorcing communication from discursive interaction by attempting to create and teach from general theories of writing or discourse that are always inadequate to their

objectives. Yarbrough concludes discourse pedagogy should be historical, in that it should understand “the problematics of ...[something] becoming an object for our discourse” (236). It should be dialogic, in that “learning students will converge their discourse with the teacher’s toward the objects of the course, not simply ritually repeat the teacher’s incantations” (237). It should be actual, in that it is “aim specific, problem oriented, and situated among the objects and people the discourse is intended to affect and be affected by” (239). It should be social, in that students are “tackling actual problems and questioning answers that are part of the way things are,” and therefore actually altering reality (240). My argument of ethical grounding is not a general theory but way of getting one’s bearings in discourse, and one that I think, in conjunction with CID and LLC pedagogies, can achieve Yarbrough’s recommendations.

CID offers not a writer-centered pedagogy, but one that actively emphasizes the triangulation of writer, object of discourse, and audience. In helping students articulate the historical concerns and beliefs of disciplines in context with present and predicted concerns and beliefs, CID empowers students as agents who, through ethical grounding, are able to identify, communicate, and revise their own beliefs. Therefore part of the point of inculcating a focus on rhetorical memory as a way of anchoring discourse study is a profound self-examination in context, a look at what underlies our reactions to others’ behavior. It’s a way of examining discourse as a triangulation rather than as individual creation.

Again, rhetorical memory’s ethical grounding locates interlocutors in particular fields of inquiry with particular habits of discourse. I have submitted several times that

metaphors of storage are inaccurate and limit what rhetorical memory actually does. Memory is a constant reconstruction, recognition, realization of past experiences in emerging contexts. Memory is the custodian to the canons, it keeps and guides them. Memory is Invention in every sense of the word; it operates to connect and interpret information—to recognize it—even as we work to articulate it rhetorically. Moreover, the increasing externalization of data due to the Internet and personal screen technology means that rhetorical memory must be the tool with which we navigate data, i.e. conduct research and *create* context. Rhetorical memory, then, is the process by which we establish our own ethos and critically evaluate the ethos of our social contexts, i.e. the sources of our beliefs about any given subject. Activities including the synthesis of multi-modal research, the interpretation of external data through internal reflection, are vital ways of centering attention. There may be little rote memorization of cultural facts, and, no doubt to E.D. Hirsch’s dismay, the instant availability of data means there probably never will be a return to a common set of cultural “knowledge” enforced by educators. What there should be instead is a pedagogy that promotes intellectual curiosity and ethical searches. What do I need to know in order to speak or write on a subject? How do I know if it’s a subject in which I have a stake? What questions can I ask that will reveal information I wouldn’t know to ask for specifically?

CID is important for faculty too, many of whom “are not likely to understand the extent to which writing differs from discipline to discipline and, at times, class to class and professor to professor” (Jamieson 78). Ethical grounding, as I’ve said, isn’t a general theory for writing, but an approach to establish a baseline from which to write in a

specific context. CID, cooperatively, can be “a space for demystifying context-specific writing. [David] Russell’s reviews suggest that methods for such a pedagogy would include direct instruction in the components of discourse-specific writing, thinking, and source use along with models, guidelines, ‘classroom talk,’ and focus on discipline specific writing processes” (Jamieson 84). CID brings to the fore disciplinary conventions which previously might have seemed to both faculty and students “generic rather than discipline-specific,” meaning easily transferable across disciplines, and learnable in a single composition course (Thaiss and Zawacki 123). In a CID approach, we work to transmute the hierarchy of qualified discourses and unqualified discourses into expert and learner. Research is a form of asynchronous collaboration with previous interlocutors. We can think of citation in context, for example, as a reader’s guide, rather than an exercise in following formats. Or, to apply Isocrates, consider citation as recasting memory in a new context (*Antidosis* 219), memory thus establishing ethos (*Antidosis* 222).

David R. Russell argues, citing Charles Bazerman, that “One can only understand the writing of a community...only in terms of the community’s activities: the issues it addresses, the purposes it serves...” and so on (13). Rather than operating as “gate-keepers” who try to “reunite academia into a coherent discourse community and solve, once and for all, the problem of poor student writing,” CID allows for disciplinary dissonance, heteroglossia, and the need to “code-switch” among discourse communities (26). It is not just discursive competencies that CID can bring--although those competencies should be emphasized as they are very appealing to administrators and their

assessment methodologies. CID also helps students better remember the material they learn. It is a neurological fact that writing and speaking on the subject at hand aids the memory, something the ancient and classical rhetoricians recognized. CID teaches students the kinds of intentions that characterize discourse communities, and in gaining experience in those discourse communities, students gain expertise.

Living Learning Communities

Edwin Smith, applying Pierre Bourdieu's concept of "habitus" to ethos and situated learning, argues that the ethos—the values and authority—of schools depend upon Bourdieu's understanding of habitus as the "interaction of structure with function and process" (463-4). Habitus refers to the complete ecology of space, structures, individuals and groups. For a school to most effectively inculcate its values, the organization (or, we might say, arrangement) of its structures is key. Smith's focus is on larger issues of school community neighborhoods and educational policy. For individual schools, however, Smith recommends that "the calculus is of necessity largely intuitive because the complexity [of community need] cannot be reduced to rational parameters" (469). The art of school leadership for Smith depends upon a careful consideration of the full ecology of its constituent interactions. Consider, then, the idea of Living Learning Communities in conjunction with CID.

The following sentiments will not be unfamiliar to anyone familiar with American education today: "It is very clear that our college teaching is not successful. Never before in the history of the world was higher education so eagerly desired, so widely offered and taken, so lavishly endowed. And yet ... it is at present largely futile, frustrated,

dissatisfied” (x). Alexander Meiklejohn wrote this in 1932. His response to problems of performance and persistence in the University was the Experimental College, the first Living Learning Community, in which students were divided into smaller cohorts, faculty devoted themselves to intense instruction with these cohorts, and cohorts integrated social interests with interdisciplinary academic pursuits (246-7).

In American universities, the Living Learning Community movement began in the mid-1920s, influenced by Pragmatic philosophy, chiefly John Dewey, and Meiklejohn, the latter of whom established the first experimental college at the University of Madison-Wisconsin. These experimental programs, which are now most prominent at Evergreen College in Washington, integrate curricular and extracurricular learning within students’ residential experience. Students live together, take courses together—often interdisciplinary, occasionally themed or focused on a single discipline, and in the same hall in which they live—and interact with faculty and administration in long-term relationships. These relationships matter, we can now understand, for neurological reasons. The plasticity of young minds is reason for cultivating interaction among a diversity of perspectives and experiences, and the social results reported from Brockton High School are a clear example of the benefits of such cultivation. Learning, and what we might call civility in terms of self- and social governance, is basically the accumulation of perspectives, which allow us possibilities for invention.

Communities produce knowledge, reinforce values, and facilitate learning. Living Learning Communities establish a residence hall as a place where such communities can exist. They can foster an ethos of academic inquiry and the integration of academics into

students' lives, with an emphasis on "shared knowledge...shared knowing...and shared responsibility" (Tinto 2). LLCs immerse students in a shared intellectual experience in which they take courses as a community, work and live together. They remove the false division of disciplines physically reinforced by separate buildings and rooms and departments. Students still take courses in those traditional settings, but they also take courses within their hall, interact with their professors, collaborate with other courses in other disciplines, see how different disciplines expect different discourse conventions because of their different concerns, but also how different disciplines treat the same subjects in ways that individuals can integrate into more comprehensive understandings.

Isocrates's *paedaeia* was designed to foster students' ability to choose among matters under dispute. For John Dewey, experience for students meant, as Crowley describes it, an individual's ongoing interaction with her environment. This interaction is mutual: as the environment shapes individuals, so do an individual's actions alter her surroundings." (*Composition in the University* 162). The combination of LLCs and CID applies Dewey's interaction to Isocrates's purpose. They interact in order to understand what questions disciplines are approaching, how, and why they matter. In their oft-cited study, Pascarella and Terenzini conclude, "The greatest impact appears to stem from students' total level of campus engagement, particularly when academic, interpersonal, extracurricular involvements are mutually reinforcing, and relevant to a particular educational outcome" (647). No pedagogy could claim to offer this impact more thoroughly than LLCs.

LLCs and CID foster an ethical stance toward education. That stance insists upon situated learning, learning-in-context, and applied learning in which the abstraction of theories is immediately and importantly tied to the way we navigate within the world. Students are immersed in an integrated learning experience across courses, see disciplines interacting, and engage in dialogue with faculty. Learning does not just take place in the classroom; students in LLCs integrate their academic and social lives in extracurricular activities that apply multiple disciplinary perspectives. The intellectual benefits of such pedagogies lie not just being taught “how” to think or being exposed to “the best” ideas and texts. They also lie in the enforced schedule of tasks, which dislodge us from indolence and require us to exert our curiosities, flex our intellects, and exercise our imaginations. These capacities develop, in concert, in proportion to the level and frequency of the challenges and to the degree which we choose to meet those challenges.

A brief anecdote. I taught an early American literature course in the Spring 2013 semester to a class of freshmen and sophomores. For many, it was their first “real” literature class, and some of them struggled with the very idea of analysis, not to mention what value it could have. One student raised his hand and said, “I like critical thinking, but I don’t really know how to do it unless you tell me what I’m supposed to be thinking about and how.” Since his comment revealed he had a questionable grasp of the concept of critical thinking, I asked him to define it. He struggled for a moment, and then said, “Critical thinking is thinking about something in ways that you ask questions about it, like you don’t just memorize facts, you ask what’s true, and what it all means.” I told him that sounded pretty good, so given that definition how could I tell him what to think

about and how? He agreed that I could not direct him explicitly. Then he said, “Well, then how do you teach critical thinking?” I responded that I think we teach critical thinking through our arrangement of students’ experiences.

LeDoux cites Alison Gopnik’s studies of infant brain development⁸⁰ to note, “every time the infant learns something, his or her brain is changed in a way that helps it learn something else” (96). Thus learning at the infant stage is crucial as “the foundation of subsequent learning” (ibid.). Though synaptic mapping requires more effort as we age, the principle of learning remains the same. What we learn in school, for example, is a foundation for subsequent learning, and learning is our basis for decision-making. Any decision is an exercise of free will until it becomes externalized as action. Once decisions become actions, they change the environment in ways that are both predictable and unpredictable, and that changed environment conditions ethical consideration of further decisions. But conditioning does not preclude free will, because we are capable of deliberation, including reflecting on our own potential conditions. We are capable of rhetorical memory as invention and arrangement. Whether we *choose* such reflection is at the heart of the idea of liberal education. Cast in interactionist terms, education attempts to condition people to identify, consider, and even reject their conditioning. In the end, I am talking about fostering an ethic of awareness and consideration. Not awareness in the limited sense of ideological slogans like social justice, or consideration as taking other’s feelings into account, but awareness and consideration in terms of thinking about our actions ecologically.

The integration of disciplines within LLCs restores their ecological relationship, as well. When disciplines become separate from one another, they diminish. Philosophy, distinct from science and history, has little purpose in real life; science, distinct from philosophy and history, is amoral and even dangerous; history, distinct from science and philosophy, is a stenographer's record. Moreover, the modern university places ever-specialized departments in separate buildings (and campuses) and in direct competition for resources and political influence. Increasingly, even with the popularity of so-called interdisciplinarity, we do not communicate with each other. But if we teach together in programs that provide results administrators value—money, retention and persistence rates—we help ourselves and our students. LLCs and CID are not merely attractive to educational idealists, after all. They produce assessable data very attractive to administrators.⁸¹ It is common knowledge at this point that persistence and graduation rates of students in LLCs are higher than national averages of students not in LLCs, as are their positive responses to satisfaction surveys.⁸² Further, as the 2013 National Survey of Student Engagement notes, first-year students engaging in LLCs and other high-impact learning experiences (e.g. service learning) self-report greater increases in “knowledge, skills, and personal development, [and] were more satisfied with their entire educational experience.”⁸³ LLCs and CID can offer a culture of true interdisciplinarity, what was once known as a classical education. They can develop in students true topical connections—synaptic maps—among disciplines and help them feel comfortable with their discourse in multiple spaces. They can feel “at home” in disciplinary discourse.

Conclusion

Applebee stresses that “As the present changes, the past will of necessity be reconstrued” (16), and we will revise, discard, and re-evaluate in order to maintain relevance in our knowledge base. That is the reality of how our consciousness works in our ever-changing environment, but education in its current form does not well equip students for such flexibility. There is clear and present danger in micro-specialization and the debasement of liberal arts education into vocational training. But even in the liberal arts, students often learn to write, speak, and read “academically,” and have trouble adapting that competence to non-academic contexts. I myself came through an English graduate program that addresses some of the concerns Applebee raises by giving us flexibility in our reading lists, some interdisciplinary possibilities, and other professional development options. Still, the Ph.D. level the main goal seems to be to produce professors, and, especially in some pockets of the department, a certain kind of professor. And yet, as Yarbrough put it, differences in training expectations that have been exhibited in surveys conducted by UNCG of employers, students, and faculty “clearly point to disparities between the conditions, expectations, required values, and common assumptions enculturated by academia and those enculturated by the rest of the capitalist world” (“Aims of Graduate Education in English” 104). If academia itself is not operating in-context, how can it effectively teach “knowledge-in-context?”

I hope this study supports a possible answer. The interactive and integrated environment of LLCs and the situated agency of CID empowers and indeed pushes students to critically evaluate the beliefs, values, and mythologies of the subjects they

study. Mead identifies mythology and the cult with rationalizations and habit, the latter of which precedes the former. The implication here is that the rationalization of habits is constructed in memory acts. Memory constructs mythology, and is conditioned by mythology. The problem, of course, is that habit becomes “cult” when the organism attempts to accord permanence to the structures of habit, and those structures inevitably become archaic. So, Mead says, “The goal of experience lies indefinitely beyond experience,” which we approach via thought and reconstructions of past (memory) from which we hypothesize or predict future (“Pragmatic Theory of Truth” 332).

CID pedagogies in LLCs necessarily contextualize disciplinary and indeed cultural traditions as “domains for conversation” (Applebee 37). These “culturally significant schooled traditions of knowing and doing” (ibid.) can be usefully described from an interactionist point of view as “habits” from which we can infer expectations, beliefs, and values, and within and against which we can develop our own beliefs and values. But if we *consider* the term “tradition,” we are faced with the problem of how traditions are valued, and tend toward cultish reification. In what ways can we walk that sort of tightrope, where we learn from traditions as habits, and avoid allowing cultish valuing of “tradition” to slow us down, like barnacles on a ship’s hull, as we navigate through the ever-emergent present? Tradition must be thought of as an ongoing conversation with a kind of purpose. Education helps craft those purposes.

Understanding how basic neurological mechanisms operate allows us to reconsider how classical concepts of rhetorical memory provide a practical center for modern rhetoricians (and composition students) to systematize their discourse in a given

context. Memory and the canons of rhetoric can be used in a post-process, Communicating in the Disciplines approach to discourse study. This approach reclaims the interdependent unity of the rhetorical canons in order to articulate composition—in any communicative act—as something we do interactively, within a wide-ranging set of communal habits and expectations we call cultures, and from a number of potentially competing stances or points of view. By locating our attempts at discourse—our compositions—in our bodies, specifically our brains, and within disciplines, ethical stances toward specific topical relationships, we establish grounds from which we can base discursive inquiries into our shared world as responsible agents. To put it more plainly, rhetorical memory offers us principles by which we find our ethical grounding, the stance we, and our potential audiences, have toward a given subject in a given situation.

Again, it is not just discursive competencies developed by learning-content-in-action that CID and LLCs can bring—although those competencies should be emphasized as they are very appealing to administrators because they produce assessable data. This dual approach also helps students better remember the material they learn. It is a neurological fact that writing and speaking on the subject at hand aids the memory, something the ancient and classical rhetoricians recognized. CID and LLCs teach students the kinds of intentions that characterize discourse communities, and in gaining experience in those discourse communities, students gain expertise. Michael O’Shea notes, simply, “the best advice to anyone seeking a better memory and recall ability is to continue to learn. ... When laying down new memories [the brain] makes new proteins

and forms new synapses; some regions of the brain literally grow in response to the information storage demands placed upon them” (100). Moreover, the connections we make among synaptic maps simply by thinking about them strengthens and extends those maps, making thought, association, and recall more complex and quick. We can make ourselves smarter by thinking deeply and broadly.

We know that synapses are changed by experience (LeDoux, *Synaptic Self* 8). We must also remember that “experience” includes imagination and decisions. We can learn and remember because of our synaptic plasticity, and to be accurate, the modification of the brain via synaptic plasticity *is* learning. Memory is the “synaptic result” of learning (LeDoux, *Synaptic Self* 9). Rhetorical memory, then, is how we adapt, how we direct our own evolution.

The application of rhetorical and neurological memory to the notion of responsible agency, *Communicating In the Disciplines*, and *Living Learning Communities* empowers students exploring the various conventions of disciplinary discourse. Further, students who understand their own agency through common sense recognize disciplinary conventions not only as formats and expectations, but also as approaches to given paths of inquiry. Lois Agnew, in describing how George Campbell’s views on rhetoric apply to teaching, writes, “Teaching people to use language more effectively simultaneously refines common sense and promotes an ethical engagement in the community. . . . common sense develops as people practice using language to make judgments about particular issues that they encounter” (92-3). (For a more in-depth discussion of Campbell in relation to the present work, see Appendix B.)

Ultimately, neuroscience and interactionism, applied to the pedagogies of CID and LLCs, offer opportunities to foster and capitalize upon what S. Michael Halloran identified, in a different context, as “the paradoxically innovative influence of a much older tradition, namely, the rhetorical tradition” (Halloran, “Rhetoric in the English Department 10). Such pedagogies have much in common with Isocrates, in that the latter’s *paedaeia* was, again, designed to foster students’ abilities to choose among matters under dispute. Isocrates also seems to have intuitively understood synaptic mapping. In his view, we may forget all that we learn, but the impact the learning has on our minds is what’s important. It’s as much how as what we know. Education is about creating pathways, associations, and stances. Integrated teaching of discourse is key to all that.

Students may utilize disciplinary perspectives to work toward mastering, and moving beyond, the conventions of particular disciplinary discourses. Discourse conventions, furthermore, consequently can be understood as historically reinforced habits of doing the work of the discipline, as opposed to intimidating and potentially inaccessible jargons that obscure the work of the discipline from all those who are “unqualified.” This perspective makes clear both the usefulness of such discourse habits in communicating, as well as the dialogic quality of these habits. Disciplinary conventions enable an audience-centered rhetoric. To put it in Campbell’s terms, our faculties, ends, and forms organize our communication to be effective. Common sense facilitates the reasoning processes of communities. The future of university education lies

in how we foster our faculties, ends, and forms in order for our students to value communication at all.

NOTES

¹ We do not know when the canons were first defined as five separate components, or who put them in their traditional order—Invention, Arrangement, Style, Memory, Delivery—but Cicero and the *Ad Herennium* offer the first extant texts in which our traditional definitions and divisions appear. The Roman texts update and order rhetorical operations identified by the Greeks: Invention: Inventio: Heuristics; Arrangement: Dispositio: Taxis; Style: Elocutio: Lexis; Memory: Memoria: Mneme; Delivery: Actio: Hypocrisis.

² See Paul Butler: *Out of Style: Reanimating Stylistic Study in Composition and Rhetoric* (2008), and *Style in Rhetoric and Composition: A Critical Sourcebook* (2009); and Kathleen Yancey's *Delivering College Composition: The Fifth Canon* (2006).

³ See, for example, John Frederick Reynolds' *Rhetorical Memory and Delivery* (1993) and Janine Rider's *The Writer's Book of Memory* (1996). The groundbreaking studies by Yates and Carruthers serve more as historical reclamations than theoretical or pedagogical applications. They are illustrative of the problem facing the modern scholar of rhetorical memory by preserving the mystical conceptions of memory held by classical and medieval rhetoricians. Sharon Crowley's *The Methodical Memory: Invention in Current-Traditional Rhetoric* (1990) actually focuses more on invention and critiquing current-traditional rhetoric than on rhetorical memory. Moreover, Crowley's work and others like it tend to describe rhetorical memory as mnemonics or topical archives for use in invention, perhaps oversimplifying classical rhetoric's conception of memory.

Reynolds's edited collection and Rider's work explore rhetorical memory more expansively. This study owes a great debt to them, and I hope to offer the depth of consideration to memory called for by their work.

⁴ Some have speculated that rhetorical memory may actually be over-emphasized in studies of classical rhetoric. As the classicist Richard Johnson wrote in a review of Yates, "My question is whether the *Ad Herennium* sets out 'the' or 'a' classical art of memory; and if but one among several, is it the main one or an aberration? ... Cicero takes a more moderate line, and Quintilian regards the 'places and images' method of very limited application" (309). Johnson notes that nowhere else in extant Latin literature is there mention of the *loci* or *imagines* of the *Ad Herennium*, and wonders if, given the Homeric bards used not memory palaces but meter and stock phrases to memorize their epics, the idea of the memory palace now holds more importance in classical rhetoric than it actually had. This is the subject of another study entirely, but worth being aware of, particularly when I discuss ethos and belief.

⁵ An exception is Sharon Crowley and Debra Hawhee's excellent *Ancient Rhetorics for Contemporary Students* (2011, 5th ed.). This textbook represents a major step forward in reincorporating rhetorical memory into composition.

⁶ See, for arbitrary examples, Robert A. Burton's, *On Being Certain: Believing You Are Right Even When You're Not* (2008); Richard Restak's *Think Smart: A Neuroscientist's Prescription for Improving Your Brain's Performance* (2009); John Brockman, *This Will Make You Smarter: New Scientific Concepts to Improve Your*

Thinking, (New York: Harper, 2012); and Stanislas Dehaene's *Reading in the Brain: The Science and Evolution of a Human Invention* (2009).

⁷ In particular, *The Construction of Negotiated Meaning: A Social Cognitive Theory of Writing* (1994).

⁸ "What are Neurorhetorics?" *Rhetoric Society Quarterly* 40.5 (2010): 405-10.

⁹ See Marilyn M. Cooper, "Rhetorical Agency as Emergent and Enacted," *CCC* 62.3 (2011): 420-49.

¹⁰ In neuroscience, memory is classified as either procedural, which refers to muscle memory, or declarative, which is our recall of events that occur. This study refers to both types but primarily focuses on declarative memory, which itself is classified in two types: semantic, the recall of information; and episodic, the recall of specific personal experiences. For ease of reading, I will use the term "memory" to refer to declarative memory in general. Whenever I discuss any other type of memory, I include a qualifier.

¹¹ This is not to suggest that Yarbrough conducted his study from a neurological standpoint; in fact, he did not. Rather, it is to point out that neuroscience confirms his perspective.

¹² See David Foster's "What Are We Talking About When We Talk About Composition?" (1988), Robert J. Connors's *Composition-Rhetoric* (1997), Sharon Crowley's *Composition in the University* (1998), and Richard Fulkerson's "Four Philosophies of Composition" (1979) and "Composition in the Turn of the Twenty-First Century" (2005).

¹³ See Herbert Blumer, *Symbolic Interactionism: Perspective and Method*. Berkeley: U of California P, 1969.

¹⁴ See, for examples, John Frederick Reynolds, ed., *Rhetorical Memory and Delivery: Classical Concepts for Contemporary Composition and Communication*, (Hillsdale, NJ: Lawrence Erlbaum, 1993); Janine Rider, *The Writer's Book of Memory: An Interdisciplinary Study for Writing Teachers*, (Mahwah, NJ: Lawrence Erlbaum, 1993).

¹⁵ Delivery is making a comeback in large part due to web technologies. See Ben McCorkle, *Rhetorical Delivery as Technological Discourse: A Cross-Cultural Study*, (Carbondale, IL: Southern Illinois UP, 2012).

¹⁶ See Eric Havelock, *Preface to Plato*, (Cambridge, MA: Harvard UP, 1963); Havelock, "The Alphabetization of Homer," in *Communication Arts in the Ancient World*. Eds. Eric Havelock and J. B. Hershbelle, (New York: Hastings House, 1978); Walter J. Ong, *Ramus, Method, and the Decay of Dialogue*, (Cambridge, MA: Harvard UP, 1958); Ong, *Orality and Literacy*, (London: Methuen, 1982).

¹⁷ Winifred Bryan Horner notes that separate composition courses and their textbook pedagogies arose from the 18th century move to standardize language, and the hope of upward mobility for students, particularly in the Scottish universities; Alexander Bain taught at Aberdeen (32-41). David R. Russell also points out that systematic writing instruction, which began in the late 19th century, was simultaneous to the development of mass education and separate academic disciplines (3). One could certainly argue that the

separation of disciplines did not help rhetorical memory's cause, as its fundamental function is what we would today call interdisciplinary.

¹⁸ See Walter Ong, *Ramus, Method, and the Decay of Dialogue, from the Art of Discourse to the Art of Reason* (Chicago: U of Chicago P, 1958).

¹⁹ James J. Murphy points this out in "Roman Writing Instruction as Described by Quintilian." See Murphy, ed., *A Short History of Writing Instruction From Ancient Greece to Twentieth-Century America* (Davis, CA: Hermagoras, 1990).

²⁰ I will argue in Chapters Two and Three, based on the work of Donald Davidson, Stephen R. Yarbrough, and the ecosystemic interactions of synapses, that words do not "represent" at all, but rather *indicate*, which explains how words can spur such subjective associations.

²¹ This topic is explored in depth in Mary Carruthers' *The Book of Memory: A Study of Memory in Medieval Culture* (Cambridge, UK: Cambridge UP, 1992).

²² See *Phaedrus*, and Aristotle's first sentence of *Rhetoric*: "Rhetoric is the counterpart of dialectic" (1354a1).

²³ Walter Ong, Rev. of *Eighteenth-Century British Logica and Rhetoric*, by Wilbur Samuel Howell, *William and Mary Quarterly* 29.4 (1972): 637-43.

²⁴ Adams notes that while Bacon, Descartes, and Locke replaced Richardson's philosophy at Harvard in the late seventeenth century, educational philosophy continued to utilize Richardson well into the eighteenth century (273).

²⁵ Halloran writes, "The first rhetoric text published in America, Samuel Knox's *A Compendious System of Rhetoric* (1809), consists largely of extracts from Blair, and the

first commercially successful American rhetoric text, Samuel P. Newman's *A Practical System of Rhetoric* (1827), shows a strong though less slavish debt to Blair ...” (“Rhetoric and the English Department” 6).

²⁶ As an Appalachian, my dialect and accent were taught out of me by my teachers such that I have little hint of the nasal twang and colloquial markers of the stereotypical “hillbilly.” The effect was so complete by the time I was in my early twenties that, upon my first visit to eastern Kentucky, which was only an hour away from where I grew up on southwestern Virginia, people asked me if I was from Ohio.

²⁷ See, for representative examples, Leah Ceccarelli, *Shaping Science With Rhetoric: The Cases of Dobzhansky, Schrodinger, and Wilson* (Chicago: U of Chicago P, 1993); Jeanne Fahnestock, *Rhetorical Figures in Science* (New York: Oxford UP, 2002); Alan G. Gross, *Starring the Text: The Place of Rhetoric in Science Studies* (Carbondale: Southern Illinois UP, 2006); Randy Allen Harris, ed. *Landmark Essays on Rhetoric of Science* (Mahwah, NJ: Hermagoras, 1997); and Jack Selzer, ed. *Understanding Scientific Prose* (Madison: U of Wisconsin P, 1993).

²⁸ See Ingrid D. Rowland, *Giordano Bruno: Philosopher/Heretic* (Chicago: U of Chicago P, 2009).

²⁹ William James was certainly aware of how plasticity works in the brain. He writes: “Plasticity ... means the possession of a structure weak enough to yield to an influence, but strong enough not to yield all at once. Each relatively stable phase of equilibrium in such a structure is marked by what we may call a new set of habits” (105).

³⁰ These metaphors are so prevalent in our discourse that despite my rejection of the computer metaphor, it is difficult for to avoid referring to synaptic bonds as circuits and networks.

³¹ Even this concept takes on various complexities, depending on one's interaction with and experience of slugs.

³² For an extensive summary for the lay reader of how neurons connect to one another and exchange information, see Michael O'Shea, *The Brain: A Very Short Introduction* (New York: Oxford UP, 2005), 28-41. For a more technical discussion, see Eric Kandel, et al, eds., *Principles of Neuroscience*, 5th ed., (New York: McGraw Hill, 2013), 71-307.

³³ Action potentials move slower than, for example, information processes in a computer, which accounts for a bit of lag time in our thinking processes. Our amygdala, which processes strong emotions such as fear, allows us to make reflexive reactions to certain stimuli without thinking. For example, I might see a long, tubular object surrounded by tall grass and react by jumping away. It could be a snake, and in the time it takes me to decide whether it's a snake or a garden hose, I could be bitten. Thus, I jump first and decide later. See Steven Johnson, *Mind Wide Open: Your Brain and the Neuroscience of Everyday Life*, (New York: Scribner, 2004), 47-70.

³⁴ The phrase is attributed to Carla Shatz (LeDoux 334n).

³⁵ Charles Sherrington introduced the term early in the twentieth century "to describe the specialized zone of contact at which one neuron communicates with another" (Kandel, et al. 177).

³⁶ See Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon & Schuster, 1996) for a comprehensive account of this history.

³⁷ See Neal J. Cohen and Larry R. Squire, “Preserved Learning and Retention of Pattern-Analyzing Skill in Amnesia: Dissociation of Knowing How and Knowing That,” *Science*, New Series, 210.4466 (1980), 207-210.

³⁸ There are dozens of summary accounts of the case of HM. For a concise, accessible overview, I recommend Joshua Foer, *Moonwalking With Einstein: The Art and Science of Remembering Everything* (New York: Penguin, 2011), 78-81. For an extensive primary account of HM’s case, see William Beecher Scoville and Brenda Milner, “Loss of Recent Memory After Bilateral Hippocampal Lesions,” *Journal of Neuropsychiatry and Clinical Neuroscience*, “Neuropsychiatry Classics,” Ed. Thomas C. Neylan, 12.1 (2000): 103-13.

³⁹ Neurologists are not in complete agreement. A competing “sparseness” theory proposes that individual neurons correspond to individual concepts and trigger associations. For example, if I recognize a squirrel in the yard, I immediately conjure images of a cute, furry creature scampering up and down trees, storing nuts for the winter. I think of different types of squirrels, flying squirrels, brown squirrels, gray squirrels, and so on. I also think of two associations from my youth: the Disney cartoon, *The Sword & the Stone*, which has a scene in which young Arthur and Merlin turn into squirrels, and my hometown in rural Virginia, where squirrels served as target practice for most of my neighbors and school classmates. The individual neuron theory proposes

that a single neuron has been designated “squirrel” in my brain, and it triggers all the memories I have of squirrels, along with *The Sword & the Stone*, and high school kids shooting at squirrels with shotguns. This theory, however, simplifies the brain’s workings, and does not account for the much more complex interaction of many neurons firing in associative connectivity. See O’Shea, 76.

⁴⁰ For his work he won the Nobel Prize in Physiology or Medicine in 2000.

⁴¹ As Stephen R. Yarbrough summarizes Charles Peirce, “all thoughts are narrative” (*Inventive Intercourse* 38).

⁴² My focus is on discourse and education, and I have no interest in attempting to argue a theory of consciousness or the self. Debates over the brain and the mind are complex, and I will try to succinctly explain only what is relevant to the present work.

⁴³ This idea is not unfamiliar to William James: “The consciousness, which is itself an integral thing not made of parts, ‘corresponds’ to the entire activity of the brain, whatever that may be, at the moment” (177).

⁴⁴ Damasio, coincidentally, calls these patterns maps. He applies the term differently and to different phenomena than I do when I discuss “synaptic mapping.” For Damasio, the patterns he calls maps are conscious experiences. For me, synaptic mapping is the unconscious and conscious connection of concepts to one another to form ethical stances, which is the subject of Chapter Three.

⁴⁵ Marilyn M. Cooper, “Rhetorical Agency as Emergent and Enacted,” *CCC* 62.3 (2011): 420-49.

⁴⁶ See Ferdinand de Saussure, *Course in General Linguistics*, 1916, ed. Charles Bally and Albert Sechehaye, trans. Roy Harris (La Salle, IL: Open Court, 1998).

⁴⁷ See Pinker's *The Language Instinct: How the Mind Creates Language*, (New York: HarperCollins, 1994), 44-73.

⁴⁸ In addition to "A Coherence Theory of Truth and Knowledge," see "Radical Interpretation," *Inquiries into Truth and Interpretation*, (New York: Oxford UP, 2009), 125-39.

⁴⁹ See *After Rhetoric*, (Carbondale, IL: Southern Illinois UP, 1999), especially pages 170-85, and "On 'Getting It': Resistance, Temporality, and the 'Ethical Shifting' of Discursive Interaction," *Rhetoric Society Quarterly* 40.1 (2010), 1-22.

⁵⁰ See *The Drunkard's Walk: How Randomness Rules Our Lives*, (New York: Vintage, 2008).

⁵¹ I'd like to say this particular example would be unthinkable today, but it's actually an anecdote I witnessed. (I was the male assistant of the female boss in the conference.) Names changed to protect the guilty.

⁵² Nedra Reynolds, for example, explains the "flattening" of ethos in translation, citing the work of Kathleen Welch, George Kennedy, S. Michael Halloran, and others in reclaiming fuller and more complex understandings of ethos. Most important, for me, is the acknowledgement of ethos as interactive. See "Ethos as Location: New Sites for Understanding Discursive Authority," *Rhetoric Review* 11.2 (1993), 325-38.

⁵³ See *The Neurosciences*, ed. F.O. Schmitt, (New York: Academic, 1967).

⁵⁴ See Jean-Pierre Changeux and Stanislas Dehaene, “Neuronal Models of Cognitive Functions,” *Cognition* 33.1-2 (1989), 63-109.

⁵⁵ The historical study of topics, as noted by Yarbrough, changes terminology and conflates topics and commonplaces. The important thing is that the common topics apply in any situation, whereas special topics only apply in certain fields. Questions like “did something happen before or after something else” can always be asked, whereas questions like “is she depressed or sleepy” only apply in certain fields of action. There is a handy list of topics at the website *Silva Rhetoricae*, for example, that collates rhetorics from Greek and Roman sources:

<http://rhetoric.byu.edu/canons/invention/topics%20of%20invention/Topics.htm/>. See also Lanham, 15-18, 166-70.

⁵⁶ For an interesting account of this and other studies about selective selectivity and attention, see Keith Payne, “Your Hidden Censor: What Your Mind Will Not Let You See,” *Scientific American* 11 June 2013.

⁵⁷ See Charles Brainerd and Valerie Reyna, *The Science of False Memory* (New York: Oxford UP, 2005).

⁵⁸ Walter H. Beale explains our intuitive interaction with any given situation as dynamic recognition of genre, which is the organizing principle by which we apprehend resonance:

the informal judgments we make about kinds of discourse are historical and cultural, conditioned upon certain values, certain social arrangements and traditions, and certain developments over time. We have heard or read “things like

this” before, and the meanings that they convey are partly contingent upon this fact. (86)

Our expectations entering a rhetorical situation are determined by our past experiences (actual or virtual, e.g. having heard or read about), our stance as governed by those past experiences, and the context and timing of the present experience. Thus, we encounter a genre, and recognize it, activating a set of expectations. The manner in which our expectations are met and/or broken necessitates an interpretation, and an adjustment of our conception of the genre we recognized, or thought we recognized.

⁵⁹ This drive to coherence seems similar to Freud’s “death instinct,” the “hypothesis that all instincts tend towards the restoration of an earlier state of things” (44). This is the drive to keep things as they are (or were), to repeat activities that are already comfortably known. The paradox for Freud is that the death instinct is in opposition to Eros, which works for unified coherence. How can we reconcile the conservative retreat to the past with a desire for coherence? I think that consideration of memory as narrative actions might lead to an answer. We narrate the present and predict the future in terms of the past in order to achieve and maintain coherence. Yarbrough, in *Inventive Intercourse*, extends the concept productively in his “The Principle of the Conservation of Meaning” (174).

⁶⁰ I am grateful to Walter H. Beale, whose choice of the word “absorb” captured exactly what I was attempting to formulate.

⁶¹ It is interesting to note the spontaneous evolution of “emoticons” and tonal abbreviations (“lol,” et al.) in synchronous electronic writing, such as chat rooms, instant

messengers, texts, and emails. The visual markers indicate emotional tones in order to avoid misunderstandings, and serve as shorthand to more expansive asynchronous writing.

⁶² Sidney I. Dobrin cites this same phrase in attempting to define “ecomposition.” While that term is no longer in vogue, Dobrin makes a crucial point about space, place, and interaction in contexts:

Context seems passive at times, a backdrop to the writing. Thinking of context from an ecological point of view, we are never separate from context: it reverberates within us and we reverberate in it. There is no way to not affect the environment and be affected by it, though such effects are not always evident. Writers become part of the web [the ecological metaphor for writing identified by Marilyn C. Cooper]; organisms become part of the ecosystem. This also leads to an ecological understanding of hegemony. (“Writing Takes Place” 21)

Ideally, writing enables us to recognize traditions, identify dominant discourses, and facilitate a shared, collectively developed evolution of imaginative capacities, a heteroglossic expansion of what concepts we can articulate with language. See also Cooper, “The Ecology of Writing,” *College English* 48.4 (1986): 364-75.

⁶³ “It is at the sentential level,” writes Davidson, “that language connects with the interests and intentions language serves, and this is also the level at which the evidence for interpretation emerges” (“Locating Literary Language” 298). Words mean something only in the context of a sentence, and sentences aggregate meaning in larger groups of paragraphs, pages, chapters, books.

⁶⁴ Personal correspondence, 18 October 2013.

⁶⁵ Platonic anamnesis is a belief in innate knowledge, not in spirit different than Noam Chomsky's linguistics. Chomsky, notes Dominic Scott, "sees himself as the heir to a tradition including such philosophers as Descartes, the Cambridge Platonists, and Leibniz" (346). Platonic anamnesis is, of course, not just of innate but of forgotten knowledge, but the idea of deep structure or innate grammar is different not in kind of but of degree. Whereas Platonic anamnesis seeks "the attainment of hard philosophical knowledge," Chomskyan linguistics seeks "linguistic competence" through innate knowledge of grammatical structures (Scott 346).

⁶⁶ See Yarbrough's "principle of the conversation of meaning," discussed in Chapter Three, and in *Inventive Intercourse*.

⁶⁷ See Wallace Chafe, *Discourse, Consciousness, and Time: the Flow and Displacement of Conscious Experience in Speaking and Writing*, (Chicago: U of Chicago P, 1994).

⁶⁸ The five canons, notes Reynolds, "are one of two primary theories that dominate the discipline [of composition studies]—the other being the modes of discourse" (2). It is not my intention here to enter a debate as to the efficacy of canons versus modes, though obviously I prefer the canons.

⁶⁹ See William M. Reddy, *The Navigation of Feeling: A Framework for the History of Emotions*, (Cambridge, MA: Cambridge UP, 2001).

⁷⁰ See "Reconfiguring Writing and Delivery in Secondary Orality," Reynolds 17-30.

⁷¹ See *The Dumbest Generation: How the Digital Age Stupefies Young American and Jeopardizes Our Future (Or, Don't Trust Anyone Under 30)*, (New York: Tarcher, 2009).

⁷² See Eli Pariser, *The Filter Bubble: What the Internet is Hiding from You*, (New York: Penguin, 2011).

⁷³ See David Denby, "Public Defender," *The New Yorker* (19 Nov. 2012), 66-75, for an account of education reformer Diane Ravitch, who initially championed No Child Left Behind and common core standards, but has since recanted when data showed the programs did not improve educational outcomes and arguably hurt students' academic development. In Denby's account of Ravitch's philosophical shift, he discusses Brockton's success briefly, but also fails to hone in on writing as part of the success of the reform.

⁷⁴ "Brockton High School Improvement Plan, 2009-2010" features extensive descriptions of best practices. The 2010-2011 plan gives a concise summary. Both are available online in PDF form.

⁷⁵ According to Brockton High School's entry in the 2013 *U.S. News & World Report* national and state ranking of high schools:

<<http://www.usnews.com/education/best-high-schools/massachusetts/districts/brockton/brockton-high-school-9323>>

⁷⁶ A combination of these two approaches also combats the disturbing trend that now casts education as a product delivery service, most odiously represented by the rise of online, or "distance learning" courses. It has been clear to most researchers at least

since Lev Vygotsky and Jean Piaget that the *ways* we learn are as important as *what* we learn, and I would suggest ways and whats are interdependent. Yet universities continue to expand online education as a viable supplement or even alternative to brick-and-mortar colleges. This push comes from administrators, not from teachers or even students. But academics are beginning to buy into online education at alarming rates. I will not go into an argument against online education here (though I am inclined to argue against it everywhere). I will limit myself at present to asserting that face-to-face interaction among students and educators is important to student learning.

⁷⁷ Personal Interview, February 17, 2012.

⁷⁸ For a provocative and interesting discussion on “Composition” as a discipline, see Sidney I. Dobrin, *Postcomposition*, (Carbondale, IL: Southern Illinois UP, 2011).

⁷⁹ Strangely, there have been a proliferation of “how-to-live” courses offered by Student Affairs practitioners in the last two decades, with titles like UNCG’s own “Foundations for Learning.”

⁸⁰ See *The Scientist in the Crib: What Early Learning Tells Us About the Mind*, (New York: William Morrow, 1999).

⁸¹ See, for examples, Kurotsuchi Inkelas, et al., “Living-Learning Programs and First-Generation College Students’ Academic and Social Transition to College,” *Research in Higher Education*, 48.4 (2007): 403-34; Stassen, “The Impact of Varying Living-Learning Community Models,” *Research in Higher Education*, 44.5 (2003): 581-613.

⁸² Rather than cite studies that will be out of date by the time this dissertation sees print, I refer to representative and constantly updated data and studies on these areas. See the online National Resource Center for Learning Communities, <<http://www.evergreen.edu/washingtoncenter/>>. According to unpublished data at my institution, The University of North Carolina at Greensboro, the retention rates of the combined LLCs of the school were approximately 78%, nearly points higher than retention rates of students not in LLCs for 2011-2012.

⁸³ “National Survey of Student Engagement Annual Results 2013.”

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APPENDIX A

PHAEDRUS, FORGETFULNESS, AND ETHICAL GROUNDING

Plato's *Phaedrus* is most (in)famous in contemporary rhetoric and composition studies for its dismissal of writing as a "recipe not for memory, but for reminder" of what is already known (275a7). Memory in *Phaedrus* and other dialogues is "the groundwork of the whole" of philosophy and, to a lesser extent, rhetoric (Yates 37). I want to think about Plato, or more precisely, rhetoricians' interpretations of Plato, to try and understand how writing and memory work together. Memory is not properly analogous to wax tablet nor scroll nor codex nor computer; it is not a disinterested repository. Memory is mythological, that is, it narrates and associates historical facts as interpretations. Memory invents, arranges, styles, and delivers: we connect and interpret information—re-cognize it—even as we work to articulate that information rhetorically. *Phaedrus* casts writing at best as a reminder to a reader of what they already know, at worst as a distraction from true knowledge. Unlike dialectic, Socrates's preferred method of teaching and learning, or rhetoric, writing cannot adjust itself to new contexts or engage in dialogue. Of course, the central irony of Plato's alleged distrust of writing is Plato's own great literary achievement in his written dialogues, which have been read and debated for centuries. His writing, far from being a reminder of what we already know, incites us to dialogue precisely about what we do *not* know. Its ambiguity, perhaps designed to illustrate that writing blocks us from remembering what we knew (as well as determining what Plato himself knew), simultaneously demands a dialectical reading. We cannot question the author directly, which Socrates lamented as the main problem, but we can ask questions

of the writing which we must try to answer. These questions and our attempts to answer them give rise to further questions, and so on, and, whether Plato intended it or not, readers can establish a Socratic approach of question-answer-question.

Three of Plato's dialogues, *Meno*, *Phaedo*, and *Phaedrus*, put forth the idea that we do actually know that which we do not know, that is, we have *a priori* knowledge in our souls forgotten when we were born in our current bodies. "[S]eeking and learning are in fact nothing but recollection," Plato writes (*Meno* 81d4). In the dialogues, Socrates uses dialectic and reflective reasoning to achieve anamnesis, the memory's recovery of forgotten knowledge of eternal Truths. These methodical approaches to memory, in addition to exploring Plato's philosophical goals, illustrate ways artificial memory directs natural memory to invent novel ideas.¹

I also wish to challenge the commonly held view that Plato was hostile to writing, and suggest that that view is only possible because it ignores Plato's intentionality as a writer. Rather, we can gather from his dialogues that he regarded writing with cautious skepticism, but clearly used the technology of the medium to its fullest extent. After all, the complexity of his dialogues philosophical inquiry could only be accomplished in writing. His skepticism had much to do with what he saw to be the ultimate goal of philosophy, true understanding. While I reject his metaphysical belief in capital "T" Truth, I argue that his skepticism offers much in the way of applying rhetorical memory to writing, and all asynchronous communication, because it helps us think of ethical grounding as a dialogic future projection to imagined interlocutors as well as immediate negotiation with present interlocutors.

Plato's anamnesis, which he develops in *Meno* and *Phaedo*, is an expansive concept and underlies the entirety of *Phaedrus* and indeed of Plato's philosophy of rhetoric. Kathleen Welch argues that, while denouncing sophistic rhetoric for leaving out interaction between speaker and listener, Plato defines and promotes a philosophical rhetoric that uses dialectic to exchange and move interlocutors in dialogue forward, "allowing the soul to soar" ("Platonic Paradox" 10). The distinction then, for Plato, is that sophistic rhetoric is an ultimately inconsequential performance that sways a passive audience to admiration, whereas dialectic is a cooperative dialogue in which participants use rhetoric to help each other retrieve knowledge of the Forms, and this retrieval or remembering is anamnesis. Welch concludes,

Plato's rhetoric is much less concerned with a large assembly of hearers or readers than he is with a series of one-to-one dialectics formed by rhetoric. ... [The dialogues' characters] interact not only with the dialogue character of Socrates but with the environments they populate. The individuals, set in the scene of a particular Athens, are active interlocutors who challenge and are challenged by Socrates. ... They are so carefully wrought that, as Walter Pater (1910) explains, the dialogues themselves become individuals with whom we interact. ("Platonic Paradox" 10-11)²

According to Welch, Plato uses writing to create a context with which readers engage in dialectic. The written dialogue creates a private forum for an individual reader to join the character of Socrates and his companions in a particular Athens (a cultural context) to discuss particular ideas, and then follow those ideas toward their ultimate Forms.

This dialectic is Plato's method of anamnesis. We reach Truth (capital "T," the Truth of the latent Forms) by balancing inquiry as a back-and-forth. The dialogue, Welch says, preserves Plato's ideas in as near a form as possible to speaking, which elicits

immediate response and impresses on the reader playful aspects of rhetoric that “removes us from hyperlogical classical rhetoric” (“Platonic Paradox” 14). From this argument, it follows that Platonic rhetoric, like narrative fiction, locates readers in a discursive context in which the dialogue takes place. This provision of context requires readers to root dialectic not just in the world of the dialogue, but also in the physical world they inhabit so that discussion moves from concrete particulars to abstract universals. Furthermore, Plato’s invocation of historical persons and places with whom and which his readers would be familiar reminds readers that the dialogue is rooted in the same world they inhabit. This rootedness stands against wholly abstract formal logic. From this perspective, Platonic rhetoric does not divorce logos from pathos and ethos.

Jasper Neel sets forth precisely the opposite interpretation of Plato’s attitude toward writing. His perspective depends on separating Plato’s thought from the world. In *Plato, Derrida, and Writing*, Neel surveys the long history of rhetorical study of *Phaedrus* and argues that we should take Plato at the word of his character of Socrates. Neel holds that Plato actually does condemn writing, preferring oral dialectic as the only way to reach knowledge of the Forms.³ Plato uses writing to deny writing, a sort of proto-deconstructionist strategy for consolidating the authority of wisdom in dialectic: “What Platonism offers in *Phaedrus* is not dialectic. What Platonism offers in *Phaedrus* is a continuous repetition of Platonism. Plato wants to use writing, rhetoric, and sophistry to destroy themselves” (23). According to Neel, to free ourselves from Plato’s dismissal of writing in pursuit of Truth, and Derrida’s inescapable deconstructionism that locks writing in philosophy, we should embrace a sophistic approach that seeks not Truth but

persuasive predictions based upon inquiry into probability. Writing for Neel is a way to engage public debates and agreements on *doxa*—customs, beliefs, and opinions—by looking at past customs, beliefs, and opinions in such a way as to predict best possible actions and outcomes in present and future contexts. So far, so good.

However, Neel offers a perspective on writing that reveals a danger of writing to memory as anamnesis not only in the metaphysical sense Plato advocates, but also in the sophistic sense of my term, ethical grounding, which establishes ethos by researching and reflecting on knowledge of the past. Neel's perspective, further, underscores reasons for Plato's purported distrust of writing.

Neel argues that Plato's rhetorical strategy is essentially a deceptive form of deconstruction. For example, *Phaedrus* makes many allusions to Isocrates, whom Plato purports to respect above Sophists. The dialogue was likely written around 367 B.C.E., but Plato sets the dialogue at around 410 B.C.E., before Isocrates founded his school, Plato is able to express his hope for Isocrates to live up to his promise (as Plato sees it) as a philosopher. But this hope is specious; Plato the writer knows that in fact Isocrates will not live up to the hopes expressed by the character Socrates, but instead will remain guilty of sophistry. Plato sets the dialogue in the past, and thereby pretends not to know the future that will follow that dialogue. This strategy condemns Isocrates to failure by hoping he will not become what he in fact does become: a teacher of sophistry. But, Neel says, "the very fabric of Plato's text consists of, indeed could not have been woven without, the written sophistry of Isocrates" (25). Plato, he says, uses sophistry to establish

his point, and once the point is established, calls the very strategy he pretends not to use himself inadequate.

Neel argues this to be Plato's strategy throughout. What is deconstructive about Plato's strategy is the way he attempts to use his writing to divorce his writing from writing. Neel continues,

Phaedrus, like all writing, is a place in a sequence. But Plato's strategy is to use writing and then call attention to its inadequacy in an attempt to separate his writing from writing, just as he tries to separate his sophistry from sophistry. ... Even without Harold Bloom we can see that written texts must repeat prior written texts, even if the second text tries to subvert what it repeats by making the predecessor text seem to depend on its successor. Even without Jacques Derrida we can see that the one thing above all others denied to writing is absolute origin. Plato's need for Isocrates and sophistry in general is evidence enough for that. (25-6)

In revealing the endless unfolding of Plato's writing, Neel also reveals but does not discuss a fear Plato has about writing: writing, upon being written, becomes about itself. The world in which interlocutors exist—and for Plato, consequently, the world of Forms beyond—which dialectic keeps at the fore of concern, disappears. Readers pore over the writing and only the writing, which becomes its own authority. The medium becomes the message.

Once writing removes the world, it ties Platonic anamnesis to the text. Ethos and authority derive from texts' histories in other texts, in the sequence of texts Neel identifies by invoking Bloom and Derrida. What Neel has done in his deconstruction of *Phaedrus*, however, is illustrate exactly Plato's fear. He locates *Phaedrus* as a text in a sequence of texts, and removes the world with which it is concerned. Memory becomes

ahistorical and loses its connection to *doxa*, which to Plato is false knowledge but the necessary starting point from which to reach Truth. Further, ahistorical memory loses connection to *epistêmê*, True Knowledge, again because texts become tied to other texts instead of the world the texts are supposed to be about. Centuries later, current-traditional and process oriented writing pedagogies illustrate this ahistorical divide between writing and the world:

Teachers of ancient rhetorics assumed that people compose only when they are moved by some civic exigency. Unlike the composing principles taught in current-traditional pedagogy (and in some versions of process pedagogy), which describe the shape of texts and are thought to apply universally, the composing principles taught in ancient rhetorical theories were fully situated in public occasions that required intervention or at any rate stimulated a composer's desire to intervene. Moreover, ancient teachers recognized the importance of location. (Crowley, *Composition in the University* 263)

Crowley decries the sterile universality of composing in discrete components (invention-arrangement-style), which quite simply leave out the world, and concentrate only on texts in a sequence of texts, responding to other texts, arguing with other texts, and so on. Ironically, Plato, the most metaphysical of philosophers, was worried that writing would sever metaphysical inquiry from the physical world.

To return to the disagreement between Welch and Neel, Welch argues Plato's dialogues reconstruct as nearly as possible an interplay between a reader and the imaginative world in which the dialogue takes place. While this imaginative world does not really exist—it is a fictional dialogue—it does remind (which Plato says writing is good for) the reader to situate herself in a dialectic relationship with the characters in consideration of their world, and by extension, the reader's world. It connects the ideas to

an actual context as opposed to offering an ahistorical philosophical treatise that purports to authority by virtue of its own logic. In Welch's argument Plato does not want the writing to be authoritative in and of itself, but the dialectic to be authoritative as a method for recovering forgotten knowledge of the Forms. It is not syllogisms and precepts, but a conversation (albeit between unequal interlocutors).

Neel does not locate Plato in a world outside of the text. Therefore, he assumes the dialogue to be a deceptive mode that obscures Plato's intention for his writing, and only his writing, to be authoritative. Neel thinks Plato distrusts all writing and therefore wants only his writing to be the authority. But in making that assumption he condemns himself to a tautology: Plato's writing is deceitful because Plato thinks writing is deceitful. Neel leaves out the world, which Welch thinks is Plato's real concern. A closer look at *Phaedrus*'s key passage on writing supports Welch's point of view.

In *Phaedrus*, Plato has Socrates detail the degrading effect writing has on memory with the story of Thamus and Theuth. I quote it at length to provide the full context of Plato's worry about writing's effect on memory:

But when it came to writing Theuth said, "Here, O king, is a branch of learning that will make the people of Egypt wiser and improve their memories; my discovery provides a recipe for memory and wisdom." But the king answered and said, "O man full of arts ... by reason of your tender regard for the writing that is your offspring, have declared the very opposite of its true effect. If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. What you have discovered is not a recipe for memory, but for reminder. And ... by telling [your disciples] of many things without teaching them you will make them seem to know much, while for the most part they know nothing, and as men filled, not with wisdom, but with the conceit of wisdom, they will be a burden to their fellows. ... Then anyone who leaves behind him a written manual, and likewise

anyone who takes it over from him, on the supposition that such writing will provide something reliable and permanent, must be exceedingly simple-minded; he must really be ignorant of Ammon's utterance, if he imagines that written words can do anything more than remind one who knows that which the writing is concerned with. (274d-275d)

The first of Plato's fears seems to be that people would lose all sense of memory but the mere memorization of written records. This is his distinction between "memory" and a "reminder." Writing is useful as a reminder to those who know "that which the writing is concerned with," i.e. the actual subject of the writing, which for Plato is the path to wisdom. Memory, as Welch points out, is "the existence of the past within the present. It is there that culture and rhetoric largely exist" ("Platonic Paradox" 8). One who has read about dogs but has never seen one has a completely different understanding of one who has actually interacted with one. Memory, the associative narration of previously emergent events, recalls the world we have lived in and do live in so that we may attempt to understand the true Forms of that world. Plato worries that memory as memorizing writing would wither wisdom to simple knowledge of facts, or more accurately, knowledge of written accounts of facts disconnected from the important concerns of the world in the here and now, accepted uncritically by readers who eventually equate knowledge with knowing the "reminders," the writing itself. Plato worries that wisdom will degrade into recalling written words, and we will forget that the writing is *about* something, which ultimately for Plato leads to the Forms. Instead of engaging in dialectic with writing, we will memorize it, and instead of recalling the actual subjects of the writing, we will concern ourselves only with the writing itself.

For Plato, the latent knowledge of Forms resides in our memory as traces of our lives before falling to earth (Luce 105).⁴ What we seek through memory is to recollect that metaphysical knowledge. Plato's memory involves considering the purpose and value of each thing considered toward the purpose of developing wisdom. Mary F. Rousseau stresses that Platonic recollection is an intellectual attempt to recognize sensed impressions of things as properties of those things as true, real things: "not a recall of a past vision but the activity of using an intelligible criterion by which to unify and stabilize sense perceptions, an activity that is simultaneous with those perceptions" (342). In other words, our memories of lived experience, which include intellectual inquiry, serve as the criteria by which we incorporate emergent experience as learning. Finally, Rousseau concludes, "recollection...is realization," that is, determining that our knowledge of the world is true (343). Thus, the utility of Socratic ignorance—the beginning of all inquiries with the recognition of our own ignorance—is that it affirms friendship—interaction—as the fundamental prerequisite for dialectic, our affinity for and dependence on one another to come to agreement about what is and what is not (346). Therefore even if we dispense with the metaphysics, the consideration of purpose and value grounds Platonic anamnesis in the actual world. A consequence of viewing writing as authoritative in and of itself is that it leaves out the world. Thought becomes simple memorization of writing for its own sake or argumentation of texts against each other. Plato might imply the problem of writing removed from the world accidentally; his concern is metaphysical, but in expressing the concern he reveals a more material problem. The concern for modern composition, though for different reasons, is the same

as Plato's: it is just as much *how* and *why* we remember in a given situation, a given context, as *what* we remember.

Why is it, furthermore, that we continue to assume Plato is hostile to writing? Neel is just another in a long line of commentary that suggests we take Plato at the word of his characters, which is certainly an intentional fallacy. Can we even assume that Socrates speaks for Plato? Or should we consider that Plato uses writing—brilliantly, given his lasting influence—to accomplish what oral dialogues cannot? Plato's Socrates criticizes other characters, but is Socrates himself immune from criticism? Socrates dismisses writing as at best a reminder of real knowledge, but Plato cannot have been so dismissive, otherwise we would not have his writing to wrestle with. Plato's literary achievement is an attempt at using writing to remind readers of the real world, which is the ultimate concern of philosophy, rather than using writing to record speeches, which lose their relevance and become exercises in admirable style. Plato was cautious about writing, perhaps, but not dismissive.

What, then, could have been Plato's problem with writing? Yarbrough wonders, "Could it be that Plato is saying that, as a re-minder (implying that the mind had grasped it before) writing is good, but as a recipe, it is bad, and where Theuth was wrong was not in inventing writing but in recommending it as a recipe?" (Personal Interview). It is not the recipe, but the cook. Remembrance—*anamnesis*—is only for those who have cooked, but recipes let us be fake cooks. We know what to do but not why. Writing becomes its own authority.⁵

His caution was not without reason, as Socrates's fears in *Phaedrus* are realized in various modern forms. Deconstruction is one. Derrida offers no way out of the text, because he sees the text as a never-ending chain of repetition and supplementation and displacement. The world does not figure in to deconstruction, only the writing itself. And what is constantly repeated, supplemented, and displaced? More writing. Writing is not memory, nor indicators of real world concerns, but reminders of other writing, as Neel's deconstruction of *Phaedrus* illustrates.

Composition's "invention-arrangement-style" reduction of the canons is another realization of Socrates's fears. Welch points out that Platonic rhetoric includes all five canons in a fully synergetic relationship. Plato's delivery is the medium of the dialogue, and memory is the explicitly psychological connection of the dialogues' participants in a world that the reader can recognize and respond to ("Platonic Paradox" 5-7). The expulsion of memory and delivery, then, creates problems that Plato's objections to writing highlight. As the above history of memory in composition demonstrates, the three-canon concept, increasingly, became both the means and ends of what we now call "composition." One of the consequent concerns about writing stemming from Plato is that attitudes toward writing as static representations of knowledge lead us to attitudes toward the ever-changing present as somehow needing to conform to our structures. But "wisdom," adapted from Plato, is our tool for adapting to the present. Whether we use this word or another, memory acts from our present stances are our adaptive tools. In light of Neel's deconstruction of *Phaedrus*, Plato's warnings about writing inducing forgetfulness are important, but not for the reasons Plato or Neel seem to think. When

writing becomes about itself, it leaves out the real world. If writing's ethos, specifically as credibility, is only itself, it becomes exactly the "recipe for forgetfulness" Plato warns against. Plato sees memory as the way to recover the metaphysical knowledge hidden deep within our souls, and suggests writing makes us forget the relationship between our material selves and our souls. In making this warning he inadvertently warns that writing can also make us forget about the relationship between our selves and the world in which we discourse.

NOTES

¹ For ease of syntax, I attribute the contents of *Phaedrus* to Plato rather than using constructions like "Plato has the character of Socrates say...". I of course recognize the perils of attributing the words of characters to an "absent" author, and it should be assumed all the standard caveats are implied.

² See Walter Pater, *Plato and Platonism*, (London: Macmillan, 1910).

³ By coincidence both Neel's book and Welch's article were published in 1988 and thus did not have an opportunity to respond to one another at the time of their publications. I have not yet found either to have referenced the other.

⁴ Plato, a Pythagorean, must have been heavily influenced by the practice of Pythagorean meditation, which was

not aimed solely at ethical perfection, but also served as a form of mental training for the faculty of memory (*mnéme*). In his section on the importance of memory, among other things, Iamblichus reports that no Pythagorean got out of bed before he had recalled the events of the preceding day, trying to repeat mentally the first thing he said or did[.] ...[A]ll this in order to exercise the memory, for nothing

was for the Pythagoreans more important for knowledge, experience, and insight than the ability to remember. In addition, ... [t]he soul needed this spiritual power in the Underworld to remember Pythagoras' advices ... to choose a good life when being reincarnated. (Riedweg 34)

It is reported that Pythagoras claimed that his own memory “extended back to details of his previous incarnations,” and his memory system, a series of exercises based on the repetition of musical scales and the movements of physical athletics, was *askesis*, from which we derive “asceticism” (Luce 34). For Plato, locating trace memories of Forms and articulating them was the ultimate goal of dialectic, and required a simple life devoid inasmuch as possible of distraction.

Yates writes, “We cannot concern ourselves here [in *The Art of Memory*] with the pre-Simonidean origins of the art of memory; some think that it was Pythagorean; others have hinted at an Egyptian influence” (29). *Phaedrus* offers hints of a Pythagorean influence and an Egyptian connection. It is ironic, of course, that the reason Yates insists we cannot go back further than Simonides is because there is no written record...

⁵ There is another important perspective on Plato's distrust of writing and of rhetoric, and I do not want to pass it over. Charles Kauffman argues that Plato did in fact have a distinct, comprehensive rhetorical theory, and it is far from admirable. Plato's rhetoric relies heavily on “falsehood, deception, and censorship” in service of a totalitarian political system in which an absolute dictator (the philosopher-king) manipulates the perceptions of citizens for what he deems the betterment of their souls (354).

Kauffman recognizes two strains of interpretation of Plato's stance towards rhetoric. One, he hated it and had no use for it whatever. Two, he decried its present state (i.e. that practiced by Gorgias and other Sophists), and sought to reform it in service of Truth. Kauffman contends that both views are misleading, and have lead critics to gloss over Plato's repressive totalitarianism. For Kauffman, Plato's rhetoric has four primary characteristics. (1) rhetoric encompasses all forms of persuasion using language; (2) its content is determined by prior epistemological truth; (3) dialectic—a process prior to and separate from rhetoric—is the method by which this epistemology is established; (4) the function of rhetoric is to enforce social conformity and control.

Kauffman concludes that Plato's rhetoric is quite distasteful and unworthy of the esteem it has been accorded over the centuries. He emphasizes Aristotle's stance against that of his master, noting "the essential difference between the two rhetorics is evident in Aristotle's preoccupation with methods versus Plato's interest in results" (363). The former implies that ethical methodology enables ethical usage *by anyone*. The latter implies that the methodology is denied all but a few philosophers, who are then responsible for the rest of us. This reasoning has been ostensibly at the base of many a dictatorship throughout history.

APPENDIX B

GEORGE CAMPBELL AND RHETORICAL EDUCATION

My pedagogical conclusions, though not my epistemological framework, find some support in an unlikely source: the faculty psychology of Scottish rhetorician George Campbell, specifically the ways in which he understood memory. Homing in on Campbell might seem a bit of a curve, since he, along with Hugh Blair and Alexander Bain, and English rhetoricians like Richard Whately, directly influenced what is now called the current-traditional approach to writing instruction. This approach, once dominant and still very strong in American universities and colleges, has drawn serious criticism for ignoring considerations of audience in writing and thinking, locating invention solely in the mind of the writer, assuming all writers and readers think the same way, and privileging style above the other canons of rhetoric. Sharon Crowley argues that the very notion of these eighteenth century rhetorics is a testament to Plato's distrust of writing.¹ However, Campbell's perspectives were a bit different than the legacy of current-traditional rhetoric would suggest. In fact, explains John Hagaman, Campbell quite clearly "sought...a description of rhetoric that relates rhetorical principles to mental operations" (21), a project for which audience is central. My project is rather similar.

I single out Campbell for two coincidental factors, as well. First, the Scottish universities which inspired the structure of American universities were Living Learning Communities of a sort, featuring communal interaction among students and extra-curricular contact with poorly compensated regents, trained in rhetoric and at least one other subject, who served as faculty-in-residence.² Most Scottish universities moved

away from this structure by the mid-nineteenth century, but it was still in place when Campbell was active (Horner 19-20). Campbell is also a “what might have been” case in early American university education. His *Philosophy of Rhetoric* (1776) was the second most commonly used textbook in the first quarter of the nineteenth century, behind Blair. But Campbell was supplanted and eventually dropped in favor of Bain’s *English Composition and Rhetoric* (Horner and Aley 52). Obviously contemporary educational concepts like CID and LLCs would have been foreign to Campbell, yet his understanding of faculty psychology and of “common sense” does find some confirmation in contemporary neuroscience, and it may be both interesting and useful to view his thinking through this frame and draw some conclusions about university education.

When Campbell prepared his study of rhetoric, he aimed in part to counter John Locke’s dismissal of rhetoric as a method of deceit. For Campbell, rhetoric instead belonged to the realm of moral reasoning, rather than science, which requires axioms and propositions. Moreover, he—along with Blair and Whately—blurred the demarcations of the Aristotelian appeals. He dropped the canons, topics, and syllogisms, and instead offered two stages of persuasion: (1) excite a desire, and (2) satisfy judgment that an action completes the desire. This is the “motivated sequence,” which considers Place, Speaker, Audience, Subject, and End.

Already this reveals important differences between Campbell’s actual ideas in *The Philosophy of Rhetoric* and the current-traditional rhetoric that he partly inspired, in that he does consider audience and the context of discourse. He does not necessarily assume a sterile method—some rhetorical version of formal logic—to be placed over any rhetorical

situation. He even dispenses with prescriptivism in style and grammar.³ He recognizes evolving usage and the fact that aesthetics and interpretations can be contingent on situation and audience, that is, what a certain group of people with certain commonalities might find appealing in a certain context.

Campbell explains that the rhetor must consider the individuals of an audience, intellectually, morally, and so on.⁴ The rhetor must recognize different perspectives, imaginations, and memories resulting from different backgrounds. Such considerations should tailor the speech and the rhetor's establishment of himself as a speaker. John Hagaman has examined Campbell's focus on audience, explaining that Campbell's rhetor is "concerned with the process by which an audience comprehends and is moved...[and] operates in the full rhetorical context of subject, speaker, and hearers, the latter both men 'in general' and 'in particular'" (22).

Campbell accepted much of Locke, Hume, and Hartley: he believed there are separate faculties of the mind—the understanding, the imagination, the passion, and the will—and that these faculties, combined with a rhetor's purpose, determined the form a discourse should take. If we consider that at face value, we can see the lineage of current-traditional rhetoric and its standardization of method regardless of audience and situation. But if we remember the points I just addressed, we see that what is paramount is the world in which we discourse. As Lois Agnew has argued, "Campbell's common sense involves more than the static capacity to apprehend self-evident truth, because it serves as the foundation for the moral reasoning that enables people to make judgments about contingent matters in all areas 'concerning life and existence'" (82, *PoR* 42).

Common sense holds that our knowledge is based on interpretations of our sensory experience, and that we have the ability to apply that general knowledge from our memories to specific situations. Moreover, in the process of using our common sense, we naturally develop certain shared assumptions and expectations, which get more specific as we define our discourse communities more specifically.

The neurological operations of memory that I have related make several overlaps with Campbell. To summarize, deliberately making associations between ideas or concepts strengthens memory, and emotional associations with ideas or concepts make them more memorable. In other words, imagination and passion increase both the understanding and the will to remember. Moreover, we see neurologically that our memories do in fact share the starting point of Scottish common sense. As Agnew describes it, this starting point is “the relationship between perception through the physical senses and the beliefs about the world that those sensations inspire in the individual” (89). While the mental faculties as assumed in faculty psychology are not as neatly divided as Locke, Campbell, and others thought, it is true that different operations of thinking and remembering occur in different areas of the brain, which overlap and occasionally compete like an ecosystem. Persuasion, taste, and meaning itself lie in the collective perspectives of and negotiations among a discourse community.

Current-traditional rhetoric, as Sharon Crowley argues, is deficient because it lacks “a viable theory of invention” (*Methodical Memory* xi). Its “method” privileged the author’s voice to the exclusion of everything outside of his mind, setting up a series of “hierarchical dichotomies” such as “nature and artifice, body and soul, invention and

style, content and form, subject and expression” (*Methodical Memory* xiv). I argue, however, that current-traditional rhetoric is not a natural progression from Campbell’s treatment of memory and rhetoric.

Campbell, as did Locke and the other early modernists, thought that intuition was the source of knowledge (Crowley, *Methodical Memory* 5). Intuition is an application and reflective contemplation of one’s thoughts, outside of reason or justification; it’s what guides our common sense. It is the way we feel through our deeply held beliefs. This is a problem when we privilege it and set it against the world outside our bodies. But when we collapse the distinction between the self and the world around us, which a distributed cognition perspective makes possible by locating our bodies and brains in communities of language users, intuition becomes the means by which we apply and reflect on our values, beliefs, and deeply held assumptions *as part of* our discourse communities.

There may in fact be a natural, innate moral sense, the “common sense” of moderation. Scientists exploring altruism increasingly find there is some innate tendency to do good for one’s community.⁵ Whatever the case, it is generally agreed that what we call common sense, in the Scottish philosophical sense, is an innate faculty developed by our associations of ideas as we gain experience in our communities. Education cultivates moral sense. The mission of university education in my view is not to cultivate particular moral or political values, but a general sense that values reflection, research, and adaptation.

Toward that end, rhetoric and discourse study should turn its attention to Living Learning Communities and Communicating in the Disciplines pedagogies. The former

cultivates the values of the university—reflection, interdisciplinarity, civic responsibility. The latter immerses students in the discourse communities with which they will communicate, allowing them to understand audience expectations and definitions of eloquence, and thereby develop their common sense and intuition.

NOTES

¹ See *The Methodical Memory: Invention in Current-Traditional Rhetoric*, (Carbondale, IL: Southern Illinois UP, 1990).

² Much remains the same; I am currently a “regent,” a faculty-in-residence, trained in rhetoric, literary theory and film theory, at UNCG’s Ashby Residential College, North Carolina’s oldest Living Learning Community. The compensation remains low. Some things have changed, however: we no longer get to discipline our students by hitting them with a stick.

³ *Philosophy of Rhetoric*, Book II, Chapter III-V.

⁴ *Philosophy of Rhetoric*, Book I, Chapter VII.

⁵ See for example Donald W. Pfaff, *The Neuroscience of Fair Play: Why We (Usually) Follow the Golden Rule*, (New York: Dana, 2007), 12-20; Olivia Judson, “The Selfless Gene,” *The Atlantic* (October, 2007), 90-8.